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ABSTRACT

This study attempts to develop a decision framework to aid project directors in planning change under Title I of the Elementary and Secondary Education Act. Literature on change, the change process, decisions, and the decision process is reviewed and a framework within which to study planned change is constructed. Decision making, in the change process, should follow eight steps to achieve good, consistent decisions. In descending order, the process calls for recognizing the need for alternatives, establishing criteria for judging alternatives, exploring alternatives, establishing alternatives to be tested, making trials, analyzing data, finding the decision point, and, finally, implementing the decision. Each step must be carried out effectively to obtain favorable results. To assist the decision maker in recognizing decision situations, decisions are classified according to the target, general policy, objectives, program, resources, schedules, and program policy. [Charts on pages 36 and 37 may not reproduce clearly in hard copy due to small print.] (LN)

ED034298

A DECISION PROCESS AND CLASSIFICATION SYSTEM FOR USE IN PLANNING EDUCATIONAL CHANGE

By

Jack M. Ott

EVALUATION CENTE
THE OHIO STATE UNIVERSITY
College of Education

EA 002 612

The EVALUATION CENTER, an agency of the College of Education, is committed to advancing the science and practice of educational evaluation. More specifically, the purpose of the Center is to increase education's capability to obtain and use information for planning, programming, implementing and evolving educational activities. To serve this purpose, the Center's interdisciplinary team engages in research, development, instruction, leadership and service activities.

HISTORY

The origin of the present Center traces back to the establishment of the Ohio State University Test Development Center in 1962. Due to the urgent need for a more comprehensive approach to evaluation than that afforded by standardized testing, the Test Development Center was expanded in 1965 into the present Evaluation Center which is concerned with many modes of evaluation in addition to standardized testing. However, test development remains an important part of the Evaluation Center program.

GOALS

The broad objectives of the currently constituted Center are:

- to increase scientific knowledge of educational evaluation and planning;
- to develop evaluation strategies and designs;
- to develop evaluation methods and materials;
- to provide instruction in evaluation;
- to disseminate information related to educational evaluation;
- to assist educationists in evaluating their programs.

THE OHIO STATE UNIVERSITY

EVALUATION CENTER

1712 NEIL AVENUE
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ORGANIZATION

To serve its complex objectives, the Center has developed an interdisciplinary team. Currently, the staff of the Center consists of fifty-four members, including five professorial positions, plus a varying number of visiting faculty. The staff and visiting professors bring expertise from the fields of economics, education (administration, curriculum and supervision, elementary and secondary school teaching, evaluation, mathematics, planning, research methodology, and tests and measurement), psychology, sociology, systems analysis, and urban planning. The Center is organized into four divisions: Administration and Program Development; Leadership in Evaluation; Research in Evaluation; and Test Development. The Center is administered by a director and an associate director for each division.

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A DECISION PROCESS AND CLASSIFICATION SYSTEM FOR USE BY TITLE I PROJECT DIRECTORS IN PLANNING EDUCATIONAL CHANGE

By

Jack M. Ott, A.B., M.A., Ph.D.

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The Ohio State University
1967

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CHAPTER I

INTRODUCTION

Background for the problem

American education has been in a constant state of change from colonial times to the present. Examples of change are the shifts from church to tax support for schools and from the classical curriculum to the many technical curriculums now in evidence.

In spite of the fact that education has undergone great change, the change process in American education must be characterized as slow. Data gathered in the late 1930's by Mort & Cornell (1941) suggested that once a practical invention (such as the kindergarten) had been devised to meet an underlying need, approximately fifty years elapsed before three percent of the school systems had installed the innovation (34;5).[1]

Recently, through passage of the Elementary and Secondary Education Act of 1965, the federal government took steps to encourage constructive change and to narrow the gap between validation of an innovation and its dissemination into the schools.

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[1] The first set of digits represents the Bibliography entry; the second represents the page number.

With this speed-up, the quality of the educational change process has taken on new significance. It is important that those directing the change process give it proper direction. This means recognizing alternatives, problems, and potential problems, then making judgments and decisions on a sound basis.

All forms of thought assume a framework which serves as a basis for the analysis of a situation. Such a framework may be highly developed and explicit, or crude and vague. A more explicit framework is usually called a taxonomy, model, or theory, depending on the subject area and its stage of development. Let us assume, then, that a framework is necessary for thoughtful decision-making.

Each individual brings to a situation his own framework with which to analyze a problem. However, these individual frameworks have several disadvantages. They are usually not explicit and often are crude. They can be used for communication only to the extent that they are shared by the individuals involved.

Not only are common understandings necessary for communication, but the quality of any communication can be only as good as the quality of the common understandings serving as a basis for communication.

The power of an explicit model and its communication from man to man and generation to generation can be seen in the better developed sciences such as physics. Men through the years have refined and altered physical theories until, today, men of this science can communicate with great precision, gain understandings, and perform feats beyond the imaginations of intelligent men of the past or present who lacked such a sophisticated model with which to view the physical world.

Statement of the problem

The quality of communication and decision in the change process now taking place in American schools depends on the quality of the models used as a basis. Yet, the frameworks used for such communication and decision-making are, in most cases, still vague and of poor quality. Poor communication and many unsound decisions are the inevitable results.

The writer feels that the difficulty is even more serious than indicated above. He feels that no adequate, explicit framework is presently available. The reasons for the inadequacies of existing frameworks are many and varied in nature. These will be treated in detail in Chapter III of the dissertation, which is devoted to related literature.

One of the areas of greatest need is a framework to aid decision-makers in their recognition of the types of decisions they need to make. Other common shortcomings of decision technology are failure to search for a range of alternative courses of action in the process of making a decision (this writer finds this shortcoming in the work of Rogers (39;18)), failure to establish explicit criteria for judging alternative courses of action (this shortcoming is in the work of Drucker (16;115, 116, 117, 118)), and basing decision on what this writer believes to be a faulty premise (this shortcoming is in the work of Gore (19)).

It would seem urgent to develop a more adequate framework and promote its use as a basis for communication and decision-making in the change process. Such a framework should be simple to enhance its communication and use.

Use of the proposed framework should improve communication between and within levels of American education concerned with the change process. This is timely since new federal programs to aid change in education involve cooperative decision-making among local, state, and national education agencies. The proposed framework should also give better direction to the change process by aiding recognition of alternatives and problems, and by serving as a sound basis for judgments and decisions.

Believing that the path to the more general is through the specific, the researcher is directing his attention, in this study, toward a framework for decision-making in local school system Title I projects.[1]

Statement of objectives

The present study of decision in Title I projects at the local school system level has grown out of a requirement imposed by the federal government on such projects which says that Title I projects must include a provision for project evaluation. The Columbus, Ohio project has taken the stand that the purpose of evaluation is to provide information for decisions. The needs of this project have given rise to the focus of this study. The following objectives are given.

Objective 1. To develop a classification system for the range of administrative decision situations[2] involved in the efforts of local school districts to bring about positive changes in their programs through Title I projects, which will be useful in bringing to the mind of administrators the decisions they need to make.

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[1] Elementary and Secondary Education Act of 1965

[2] A decision situation is defined to be a set of alternative courses of action.

Objective 2. To construct a more adequate administrative decision process (Schema for Administrative Decision) for planned change under Title I in American education at the local school system level.

Achievement of these objectives should yield a quality framework for administrative decisions and communication related to Title I projects in the adaptation phase of the change process at the local school system level.

It is realized that these objectives deal with only one of the several levels at which change may take place in American education. Yet it is hoped that this study may have broader implications for the change process in general. There are many similarities in decision-making at the various levels of American education. Thus, it is hoped that the framework developed for Title I projects will serve as a first approximation of a framework for educational decision in general.

Overview of the study

The remainder of the study is organized as follows: Chapter II consists of a description of the setting for this study and of the research procedure; Chapter III is devoted to a review of the literature; Chapter IV presents the logical structure on which the study is based; Chapter V gives the author's conceptualization of the decision process; Chapter VI presents a classification system for the decision situations that confront Title I project directors; and finally, in Chapter VII the study is evaluated and suggestions for further study and research are made.

CHAPTER II

RESEARCH PROCEDURES

Setting

The setting and procedures of the study are described in this chapter. It also contains a statement of qualification and a strategy for evaluating the results of the study.

The Columbus Schools Evaluation Project is a project of The Ohio State University Evaluation Center in cooperation with the Columbus Public Schools. This evaluation project is focused on Columbus' Title I program established under the Elementary and Secondary Act of 1965.

The three year project has two general purposes: one, to evaluate the Columbus Public Schools' Title I projects and, two, to provide a setting for research related to evaluation. More specifically the purposes, as stated in an Ohio State University Evaluation Center report, are as follows:

> first, to provide to the Columbus Schools information to design, operate, and assess the impact of the Title I program and to make appropriate evaluation reports to the State Department of Education and the U.S.Office of Education; second, to give to the Columbus Schools a core of persons experienced and trained in evaluation, so that the school system can staff an evaluation agency within the system;

> third, to provide the Evaluation Center with an opportunity to develop and test techniques, instruments, and designs for evaluation; and
> fourth, to provide the Evaluation Center with a laboratory to generate theories in evaluation and to enable the center to practice in the public schools (22;1).

The Evaluation Center is an agency of The Ohio State University School of Education and is dedicated to advancing the science of evaluation. In addition to the Columbus project, the Evaluation Center encompasses an Evaluation Leadership Project which is in cooperation with the Toledo, Ohio Public Schools, a project to evaluate a Title III project in the Xenia, Ohio Public Schools, and a Test Development Center. The purposes of the Leadership Project are similar to those of the Columbus Public Schools Project.

The objectives of The Ohio State University Evaluation Center are as follows:

> to study planning and evaluation in education; to develop models and methods for evaluating project designs, project activities, and project outcomes; to develop methods and materials for implementing evaluation programs; to diffuse information related to evaluation; to help practitioners effectively use evaluation designs and tools; and to provide instruction in evaluation (22;2).

The evaluation model developed by Daniel L. Stufflebeam, Director of the Evaluation Center, has served as the guide for evaluation efforts in the Columbus project. This model, Figure 1, identifies four stages of evaluation; context, input, process, and product.

During the period of the researcher's employment by the Columbus project and the present study of decision, the Evaluation Center

FEBRUARY 1967
DANIEL L. STUFFLEBEAM

THE CIPP EVALUATION MODEL:

A Classification Schema of Evaluation Processes Related to and Necessary for Planned Change in Education

	CONTEXT EVALUATION	INPUT EVALUATION	PROCESS EVALUATION	PRODUCT EVALUATION
OBJECTIVE	To depict the nature of the operating context, i.e., to locate and assess needs in the system, and to delineate problems which must be overcome in meeting these needs.	To compare available input strategies, i.e., to identify various possible courses of action and to forecast their strengths and weaknesses for solving the specified problem within the relevant operating context.	To monitor the change process, i.e., to detect or predict, during the process, defects in the design or its implementation.	To measure and interpret outcomes, i.e., to relate outcomes to objectives and to context, input, and process.
APPROACH	Compares actual and intended outputs, actual and intended inputs, and actual outputs of the system.	Compares competing solution strategies for their relevance, feasibility & economy in the course of action to be taken.	Monitors the activity's potential procedural barriers & remains alert to unanticipated ones.	Defines operationally & measures criteria associated with the objectives compares these measurements with predetermined standards or comparative bases, & interprets the outcomes in terms of recorded input & process information.
RELATION TO DECISION-MAKING IN THE CHANGE PROCESS	Provides information for determining the priority of system needs & the appropriate point(s) of entry to the change process, & for planning the needed change(s).	Provides information for deciding upon program objectives, procedural designs, & resource requirements, i.e., for programing needed changes.	Provides information for implementing & refining the program design & procedure, i.e., for effecting quality control in the change process.	Provides information for deciding to continue, terminate, modify, or refocus a change activity, & for linking the activity to other major phases of the change process.

Figure 1 (50;20)

primarily has been engaged in process and product evaluation. As indicated in the diagram, process evaluation means "to detect or predict in process, defects in the procedural design or its implementation, and to maintain a record of procedural events and activities." The overall strategy of process evaluation has been to identify and monitor, on a continuous, molar, noninterventionist basis, the potential sources of failure in the project. Product evaluation means to relate outcome information to objectives and to information gathered during context, input, and process evaluation. The method in product evaluation has been to define operational criteria, measure these, and compare them with some standard such as the norms for a standardized test (22; 6, 7, 8).

The Columbus Public Schools Title I program is an array of eight projects focused on specific problems common to disadvantaged children of the inner-city.

The projects included in the program are the After-School Study Center Project, Basic Mathematics Improvement Project, Reading Improvement Project, Elementary Counseling Project, Enrichment Unit (language arts) Project, Health Service Centers Project, Pre-Kindergarten Project, and Regional Service Centers Project. The information given below describes the Columbus projects as they operated during the school year 1966-67, the period during which the present study was conducted.

The After-School Study Centers Project attempted to provide a place for study staffed with adults who would encourage and help students in the preparation of their homework assignments. Inner-city homes often do not provide the atmosphere or the resources necessary for good study.

The project was aimed at upper elementary, junior high, and senior high students. The project operated 24 centers throughout the inner-city with elementary centers open two nights a week and secondary centers open three nights a week.

The staff of each center consisted of two supervisors (one male) and a team of volunteers.

The supervisors were usually regular teachers working after hours while the volunteers were provided by local churches, service organizations, and colleges. The number of volunteers on duty varied from night to night and center to center (22; 49, 50).

The Basic Mathematics Improvement Project was designed for pupils in the inner-city who were not achieving at a level commensurate with their ability. The basic objectives of the program were to increase each child's fundamental computational skills, to help him develop a vocabulary which would aid in understanding and expressing mathematical ideas in his daily life, to develop his ability to think logically and solve problems in a quantitative situation, and to attempt to motivate the student to expend greater effort to perform at a level consistent with his ability.

Project personnel included seven mathematics improvement teachers assigned to inner-city junior high schools working with grades seven, eight, and nine, and five elementary mathematics teachers assigned to elementary schools working with grades four, five, and six. The number of students served by the project was such that both elementary and junior high mathematics improvement teachers usually worked with a different group of under-achievers each day of the week (22; 46, 47, 48).

The Reading Improvement Project was designed to provide concentrated reading instruction, together with individualized assessment and guidance for disadvantaged students who were not reading at a level commensurate with their ability. The project provided 39 reading specialists (reading improvement teachers) who serviced over 2,850 students, from the fourth through the twelfth grades. The reading improvement teachers worked with groups of one to ten students giving them concentrated and highly individualized instruction for a period of three to twelve weeks.

One or more reading specialists were assigned to each project school. The reading teachers and the classroom teachers worked together in providing help for underachievers in reading. In each secondary project school, reading improvement laboratories were established where students could work on their own or with the reading improvement teacher to improve their reading skills (22; 48, 49).

The Elementary Counseling Project was designed to provide counseling services for disadvantaged students in grades kindergarten through six from Columbus' inner-city target area and to communicate the need for elementary guidance to the school staff. Another phase of the project was to encourage and aid counselors to become certified and qualified for elementary school work.

Counseling activities aimed to assist each student to better understand himself, see his relation to the world around him, form a positive self-image, and understand his responsibilities in interpersonal relations and in school. Counseling also served as a means of identifying problems for correction, and attempted to improve the school's communication with parents.

The project staff included seven counselors each serving four or five schools. The counselors spent four days a week rotating among schools with the fifth day given to work with the project staff and pursuing course work toward certification (22; 44, 45, 46).

The Enrichment Unit Project served over forty public and private inner-city schools and was the largest of Columbus Title I projects. The two major components of the program were a language arts program for primary students and an administrative structure designed to allow primary teachers to make more productive use of their time.

The language arts program was constantly evolving in an effort to meet the changing needs of disadvantaged children and to make effective use of new insights into how to deal with the problems of this type of children. Information provided by the Evaluation Center, the observations of participating teachers, study teams concerned with oral language, and consultants from outside the public school system were all involved in the development of the program.

Specialized materials were introduced which were oriented to the life styles of inner-city children and an oral language curriculum utilizing science and social studies units was developed in an effort to broaden the cultural awareness and increase the vocabulary of these children.

The administrative structure, called the Enrichment Unit, was based on providing an enrichment teacher to work with each group of three or four primary teachers. The Enrichment Unit structure allowed the enrichment teacher, who was skilled in the teaching of the language arts, to support the work of the regular teachers in this area. It also provided the regular teacher with time to visit the students' homes and for study and lesson preparation.

The manner in which the enrichment and regular teachers worked together took at least three forms. One, the enrichment teacher assisted the regular teachers with their language instruction, spending the same portion of each school day in each classroom. Two, the enrichment teacher relieved the regular teacher of her duties when it was necessary for the latter to be involved in such activities as professional growth meetings or home visitations. And, three, the enrichment teacher had no regular classroom duties but took groups of children out of each of the regular classrooms for special instruction, trips, etc. (22;40,41,42,43).

The Health Services Project was designed to expand and refine the medical and dental services presently operated by the Columbus school system, in order to provide more medical and dental care to disadvantaged students. On the assumption that good health was a prerequisite to a student's being able to benefit from learning experiences, the project provided four health centers to serve the inner-city schools. These centers provided such services as physical and dental examinations, immunizations, innoculations, dental repair and restoration, and referral of individual cases to medical and dental consultants. In addition, the centers provided the medical component of the Pre-Kindergarten Project.

Each center was staffed with one physician (half time), two dentists (each half time), one nurse, and one dental hygienist. The centers were housed in four junior high schools in the target area. The majority of the students who were referred to the centers were referred by the school nurses (22; 50, 51).

The Pre-Kindergarten Project was designed to provide an organized program of instruction, medical services, and social services to socially disadvantaged children scheduled to enter kindergarten or first grade next school year. The children were usually four years of age and approximately 85% of them were from homes with yearly incomes of less than $3000.

The objectives of the program included the development of perceptual skills, linguistic skills, and a mental set which might be called "learning to learn" (finding pleasure in learning, giving attention to others, pursuing purposive action, delaying gratification of his desires for the pursuit of more distant goals, and viewing adults as sources of ideas as well as sources of approval and reward). In addition, the program involved parents by welcoming them to class for observation, encouraging participation in field trips and visits to Health Centers with their child, and through encouraging teachers to discuss with parents in the home and the school the progress of their children and the role that home can play in their progress.

Children served by the program were given physical, dental, and visual examinations. Immunizations were also available through health services. Referrals for health purposes were made to consultants or health facilities in the area with referrals being followed up by social workers, aides, and school nurses.

The program operated on a school year basis in approximately twenty centers within the inner-city area. Each center's staff consisted of a certified kindergarten-primary teacher, lay helpers, community volunteers, and it shared the services of a social worker with other centers (22;28, 39, 40).

The Regional Service Centers Project established service centers throughout the inner-city where substantial numbers of disadvantaged students were enrolled. These service centers were staffed with subject-matter specialists which provided to teachers coordinated curricular services in elementary-school science, foreign languages, art, music, and physical education. In addition, the centers were equipped to provide resource materials for these five curricular areas. The project serviced approximately thirty schools with each center servicing five schools. Each center was staffed by twenty teachers. Five were general resource teachers and fifteen were subject-matter specialists with three representing each of the five curricular areas.

The elementary teachers from the Mathematics Improvement Project and the elementary counselors from the Elementary Counseling Project were also housed at the regional Service Centers (22; 43, 44).

All eight Title I projects were under the direction of Dr. Joseph Davis, Assistant Superintendent. Under Dr. Davis were eleven project directors, four for the Enrichment Unit Project and one for each of the other projects, who had primary responsibility for the direction of the projects.

The staff of the Evaluation Center included Project Residents (Columbus Public School teachers on loan to the Evaluation Center) and Research Assistants who took primary responsibility for performing the evaluation of the Title I projects and reporting their findings. The evaluation structure was such that at least one Project Resident or Research Assistant was assigned to each project.

Evaluation results were reported as they were processed in written interim reports submitted to the Columbus Public Schools and at monthly report sessions. A final evaluation report was written at the end of the school year. The monthly report sessions were usually attended by Dr. Davis; the project director; Dr. Edward Novak, Associate Director, The Ohio State University Evaluation Center; a reporting Project Resident or Research Assistant; and the researcher, Data Processing Specialist, Ohio State University Evaluation Center. Reports at these monthly meetings were in oral form supplemented by handouts and transparencies.

The setting for the study was unusually good in that it was a natural setting, including both elementary and secondary schools, and encompassing a variety of projects (Enrichment Unit, Basic Mathematics Improvement, Pre-Kindergarten, Elementary Counseling, Reading Improvement, Health Services, Regional Centers, and After-School Study Centers). In addition, the needed information was accessible since the purpose of the Evaluation Center was to pinpoint problems and provide information for decisions.

The following weaknesses of the setting have been noted. All of the projects were within the structure of a single school system which may restrict the range of problems and decision situations observed. The setting was selected for its availability and not because it was representative. Most of the projects were focused on the elementary grades. The projects involved only inner-city schools having high concentrations of disadvantaged children. Finally, the Evaluation Center did not have access to problems and decisions at all administrative levels, notably at school board and superintendent levels.

Procedure

The researcher has monitored the Columbus Public Schools Title I projects in the following manner:

1. The monthly project evaluation report sessions held at The Ohio State University Evaluation Center were monitored for,
    a. Decisions made concerning the project.
    b. Questions which arose about the project.
2. The project residents were asked to log project decisions and questions which they saw occurring outside the evaluation report sessions.
3. After some of the earlier evaluation report meetings the project directors were debriefed for questions that had arisen and decisions that they had made during the previous month. The process and basis for each decision were also ascertained. As a part of the debriefing, the project directors were asked to identify potential problems and questions that they could foresee. This practice was abandoned after only a few such debriefings because of the time required of the project directors.
4. The project reports of the Evaluation Center were reviewed in an effort to identify present or potential problems and questions concerning the subject.

The monitoring of the report sessions, project resident logs, review of project reports, and project director interviews were used in conjunction with information obtained through a review of the literature to establish an extensive set of decisions and questions relative to the change process in education.

This set of decisions and questions (Appendix A) was then used in the development of a classification system for decision situations involved in the efforts of local school districts to bring about positive changes in their programs through Title I projects.

The classification system for decisions was used along with the empirical data concerning the decision process and a review of the literature to construct a schema for administrative decision in planning change in Title I projects of American elementary and secondary schools.

The professional staff of The Ohio State University Evaluation Center, being both interested in and knowledgeable about the Columbus projects and the decision study, were asked to react to the classification system and schema giving suggestions for improvement. These suggestions were then assessed and incorporated into the schema and classification system when the researcher deemed them constructive. The resulting classification system for decisions and the schema for administrative decision in the change process are believed to satisfy the objectives of the study.

Qualification of study

It is expected that the proposed classification system and schema may be of use in communication related to the local school change process. They should also serve as tools in the conceptualization of change in American elementary and secondary schools. The classification system can serve as a guide to project directors in bringing to mind the types of decisions that need to be made during the adaptation phase of innovation. The schema for administrative decision may serve as a model for project directors in their decision-making and thus improve the quality of their decisions. The classification system and schema should also be of assistance in the development of information systems, evaluation strategies and designs, etc., which are relevant to the needs of decision-makers.

The proposed classification system and schema should not be considered as rigid or final. It is expected that use of the schema and classification system along with additional research will lead to alterations and refinements of the system giving rise to even more useful schemas and classification systems.

Evaluation

A. Criteria for Evaluation of the Study

1. The framework should be relevant.
2. The framework should be internally logical and complete.
3. The framework should be a useful way to organize that which has been observed.

4. The framework should fit the observations.
5. The framework should relate elements in a way in which they have not previously been related.
6. The framework should be heuristic.
7. The framework should be logically capable of being extended by empirical study (27;126).

B. Procedures for Evaluation of the Study

The classification system was checked for comprehensiveness and logical consistency against the Typology of Planned Change as developed in the dissertation and the empirically developed list of decisions.

The schema was checked against the proposed classification system and the Planned Change Process (see page 70) for appropriateness for the types of decisions suggested.

The professional staff of The Ohio State University Evaluation Center was asked to react to the classification system and schema giving both an estimate of its worth and suggestions for improvement.

Implications of the study were examined by the researcher and are given in Chapter VII.

Final judgment of the study's quality and contribution will be heuristic in nature and will be in terms of its usefulness in the planned change process and the amount of thought, discussion, and research it provokes.

The following chapter provides a review of related literature as further background for the study.

CHAPTER III

REVIEW OF THE LITERATURE

Introduction

The general function of this literature survey is to review selected articles, papers, and books which in the opinion of the researcher carry important implications and meanings for educational planning and decision-making. The result of this effort should provide a basis for the study herein described.

Research on planning, change, and decision has been pursued in the fields of education, economics, psychology, and rural sociology. The literature reviewed herein is that which the researcher feels best describes the present state of thinking and knowledge in the areas of planning, change, and decision.

From the standpoint of substance this research will be classified under the headings, Planning, Change, The Change Process, Decision, and The Decision-Making Process.

The sections reviewing the literature on decision and the decision process are most directly related to this study and should receive careful attention. The sections dealing with planning, change, and the change process are presented as background for the logical structure given in Chapter IV.

The organizational headings will be treated in the order given above. Only the portion of the object of review considered relevant to the subject at hand will be reported herein.

Planning

A particularly useful definition of planning and one thought to be sufficiently general to encompass all types of private and public planning is as follows: "Planning is the process of preparing a set of decisions for future action directed at the achievement of specified goals" (44;1).

Two implications of this definition have been given which are worthy of note. First, planning requires the prior specification of goals or objectives, which constitute the criteria of relevance in the planning process. That is, the kinds of decisions that planners must take into consideration can be ascertained only in the light of the various objectives or goals toward which the planning is directed. Second, the fact that planning involves the making of decisions for actions in the future implies a time dimension for the planning process. Whether planning is short or long-range depends upon the nature of the goals and upon the period of time required to convert decisions into necessary action (43;1).

The researcher holds that the assumptions made in education concerning the target group and objectives are very broad in nature. There remains much planning for a school system to do in this area.

Change

Lester Nelson has characterized the more significant current educational changes as follows:

1. Practices which are directed toward fuller and more effective utilization of human talent.

Here he includes the talents of both teachers and learners, of professional, technical, and lay personnel.

2. Practices which are directed toward fuller and more effective utilization of time.

In this category he includes such efforts as changes in length of school day, Saturday programs, acceleration practices, flexible scheduling, and flexible time modules.

3. Practices which are directed toward a fuller and more effective utilization of technology.

Here he refers particularly to those technological resources which expand and extend our ability to record, store, retrieve, distribute, and use our rapidly expanding knowledge in an orderly fashion on a systematic and selective basis. These resources embrace a widening variety of electronic, mechanical, electrical, and servo-mechanical devices ranging from relatively simple devices to complex ones.

4. Efforts which are directed toward improvements in the curriculum.

Excellent illustrations of the curriculum ferment are offered by the products of the Physical Sciences Study Committee, School Mathematics Study Group, and Chemical Bond Approach.

5. Efforts which are directed toward improving teaching and the education of teachers.
6. Efforts which are directed toward changes in the design and arrangement of the physical facilities for education (36).

Other changes are identified by R.F. Williams:

1. The role of the federal government in education.
2. The role of the National Education Association.
3. The role of the teacher.
4. The role of the school board, school administration, and staff members.
5. Professional responsibilities.
6. Increased finances (54).

Douglas W. Hunt feels that we in America have demonstrated that we can teach all boys and girls to be productive members of society and that now educators are concerned with how to teach these same students so they will be even more effective members of society. Hunt calls this a shift to a concern for quality rather than quantity. He divides those seeking quality into three groups according to the types of educational changes they advocate to bring about this goal.

The first group suggests that quality be attained through subtraction, reducing the number of students in our schools and allowing only the more talented to proceed into high school and college. The second group suggests that quality be attained through addition - more schools, more teachers, more materials, more funds, longer school days, year-round schools, etc., all under more supervision and governed by more regulations. A third group sees the need for closer examination of what we are doing - careful stock taking and evaluation - and only then the introduction of basic change in the institutional arrangements for education, in instructional methods, and in the organization of the curriculum.

This third group is concerned that the rationale for what is done in the schools is better understood. At present, these persons continue to question methods and arrangements that have become traditional and to search for better.

Hunt feels that the beliefs and ideas of the third group involve the greatest potential for productive change but he acknowledges that the job has just begun with these ideas emerging:

1. Individual differences can be recognized and educational programs tailord to meet them.
2. Time can be used more effectively.
3. Human talents can be utilized more efficiently.
4. The curriculum can be organized effectively in many different ways.
5. Technology offers much promise for education, both in terms of instruction and administration.
6. Physical facilities can be more fully utilized to facilitate the educational process (23).

Henry M. Brickell has identified the six major structural elements of an educational institution to be teachers, subjects, students, methods, times, and places (2). These elements may suggest still other types of change.

A classification of change based more on the form of change than the object of change is given by Robert Chin.

1. Substitution - One element is merely substituted for another element already present.
2. Alteration - Some part of the system is altered in hopes that the change will appear minor.
3. Perturbation and Variation - The performance of a system is changed in such a way as to lead only to temporary shifts in the system, but to no change in the structure of the system itself.
4. Restructuring - The structure of the system is modified or reorganized.
5. Value Orientation Change - The frame of reference within which things are viewed and defined is changed (7).

The characteristics of changes or innovations which affect their rate of adoption have been identified by Everett M. Rogers to be as follows:

1. Relative Advantage - The degree to which an innovation is better than the ideas it supersedes.

2. Compatibility - The degree to which an innovation is consistent with existing values and past experiences of the adopters.

3. Divisibility - The degree to which an innovation may be tried on a limited basis.

4. Complexity - The degree to which an innovation is relatively difficult to understand and use.

5. Communicability - The degree to which the results of adoption or rejection of an innovation are visible to others (39; 6, 7, 8, 9, 10, 11).

It appears to the researcher that Roger's characteristics of change often function as criteria for decision-making.

B. Othanel Smith has given us an intuitive conceptual structure as a context within which to think about educational change. This conceptual structure termed The Anatomy of Change is given in Figure 2.

The Anatomy of Change

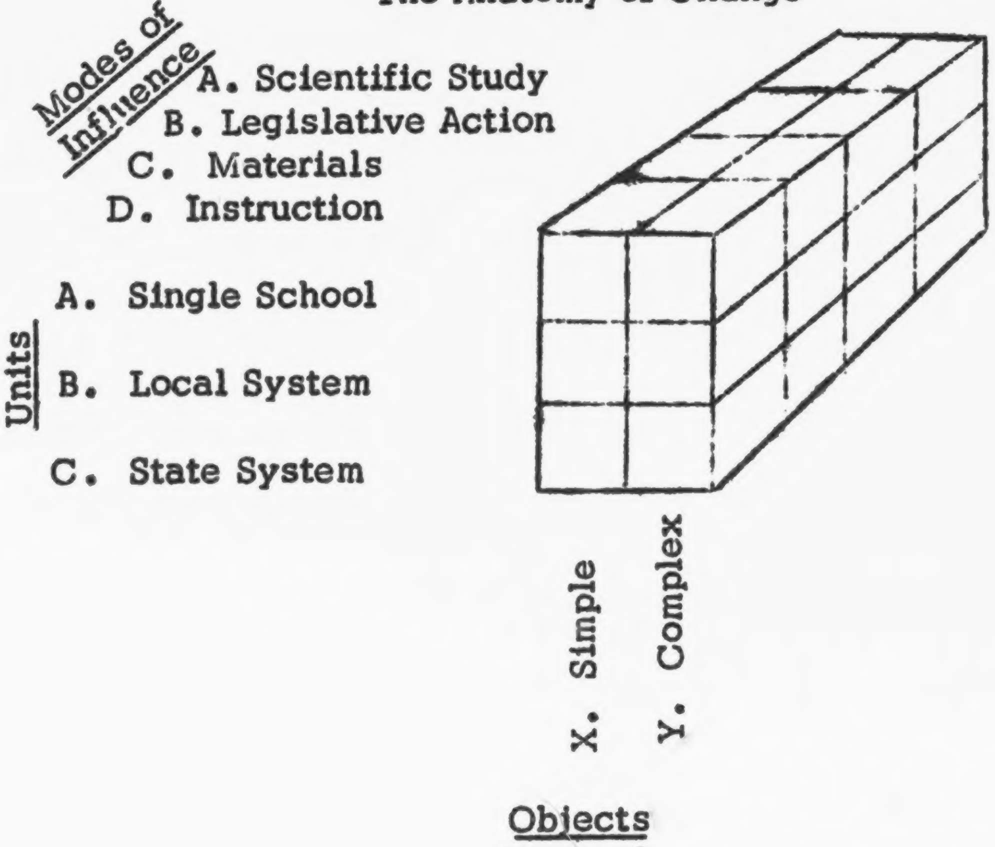

Modes of Influence
A. Scientific Study
B. Legislative Action
C. Materials
D. Instruction
Units
A. Single School
B. Local System
C. State System
X. Simple
Y. Complex
Objects

Figure 2

Smith conceives of change situations consisting of at least three sets of factors. One set has to do with the object of change - what is it about the school system that is to be changed. Another set has to do with the unit of change - the number of schools and school systems involved in the change, and a third set with the modes of influence.

He breaks objects of change into two categories, simple and complex. By simple he means those changes which include only a few factors such as a change in report cards. By complex he means those changes which involve a large number of factors such as a change from a subject curriculum to a core curriculum.

Smith identifies three categories under units of change - Single School, Local System, and State System - and four categories under modes of influence of change - instruction, materials, legislative action, and scientific study.

The category instruction refers to such activities as teacher workshops, etc.; materials refers to such influences as textbooks and closed circuit television; legislative action refers to the activities of the school board, state legislature, etc.; and scientific study refers to the activities of those engaged in educational research (47).

The Change Process

Daryl J. Hobbs lists the following stages of social change:

1. Development of innovation - New ideas or material developments which provide alternatives to existing methods.

2. Diffusion of innovations - Disseminating information pertaining to innovations from the source to potential adopters.
3. Legitimation or Advocacy - Sanction of innovation by persons or systems of authority or influence.
4. Adoption - The decision to accept and incorporate an innovation into a social system.
5. Adaptation - The adjustment or adaptation of the system to the innovation.

Hobbs indicates that the principal sources of educational innovations and means of diffusion are educational systems. But he says that since the school is controlled by and serves the educational needs of a community, it would be expected that the local school system would be more affected by and oriented toward its community norms than by other educational systems and organizations.

It seems implied by the article that the educational change process is very similar to the social change process (21).

Henry M. Brickell identifies three stages in educational innovation. They are:

1. Design - The translation of what is known about learning into programs for teaching.
2. Evaluation - The systematic testing of a new instructional approach to find what it will accomplish and under what conditions.
3. Dissemination - The process of spreading innovations into schools.

Brickell believes that failure to distinguish among the three phases is the most formidable block to educational improvement. He asserts that education is organized on the assumption that all phases can occur simultaneously in a single setting. He believes that a local school system not only cannot perform all three functions simultaneously but it has no interest in doing so (2).

It should be noted that the change process traced by Brickell proceeds from the initiator of an idea to the schools or adopters. One might say that this is the change process from the initiator's or designer's point of view.

Gerard Eicholz and Everett M. Rogers have taken the adopter's point of view and identified the following stages:

1. Awareness - The individual learns of the existence of the innovation.
2. Interest - The individual seeks more information and considers the merits of the innovation.
3. Evaluation - The individual makes a mental application of the innovation and weighs its merits for his particular situation.
4. Trial - The individual applies the innovation on a small scale.
5. Adoption - The individual accepts the innovation for continued use on the basis of a previous trial (17).

A look at educational change which seems to include both points of view is given by Charles Jung and Ronald Lippitt. Their conceptualization of the change process is illustrated in Figure 3.

This model not only conceptualizes the change process but indicates its relationship to scientific knowledge and knowledge of the educational setting.

Scientific knowledge --may draw on--The process--may draw on--Knowledge of the educational setting

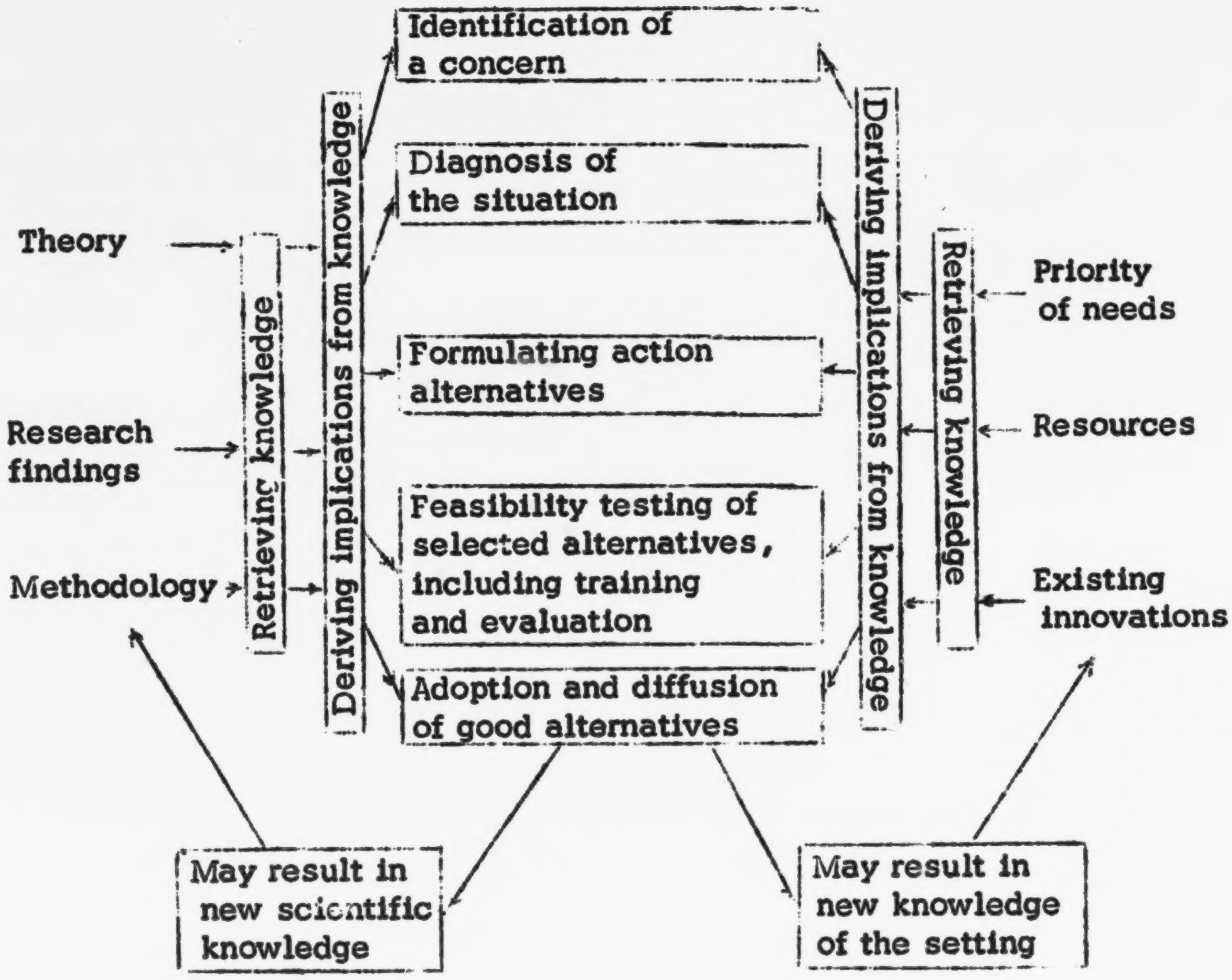

Identification of a concern
Diagnosis of the situation
Formulating action alternatives
Feasibility testing of selected alternatives, including training and evaluation
Adoption and diffusion of good alternatives
Theory
Research findings
Methodology
Retrieving knowledge
Deriving implications from knowledge
Deriving implications from knowledge
Retrieving knowledge
Priority of needs
Resources
Existing innovations
May result in new scientific knowledge
May result in new knowledge of the setting

Figure 3

According to the model, scientific knowledge (theory, research, and methodology) and knowledge of educational setting (priority of needs, resources, and existing innovations) seldom provide direct answers concerning what should be done in dealing with a problem. The educator will need to derive implications from the findings that might help him meet the problem (25).

Two other important conceptualizations of the change process which take a point of view similar to Brickell are those of Ronald Lippitt, Jeanne Watson, and Bruce Westley and of David L. Clark and Egon G. Guba.

Lippitt, Watson, and Westley identify the following stages:

1. The development of a need for change ("unfreezing"). - A change agent discovers or hypothesizes a certain difficulty in a potential client system and offers his help.
2. The establishment of a change relationship - The development of a working relationship with the change agent.
3. The clarification or diagnosis of the client system's problem.
4. The examination of alternative routes and goals - Establishing goals and intentions of action.
5. The transformation of intentions into actual change efforts.
6. The generalization and stabilization of change ("freezing") - Making the change a permanent characteristic of the system and spreading the change to neighboring systems.
7. Achieving a terminal relationship - Terminal adjustments among client systems and change agents (31;130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143).

Clark and Guba's classification schema of change processes is given in Figure 4.

This schema has probably received more attention recently than any other conceptualization of the change process.

A modified, flow diagram version of Clark and Guba's schema is given in Figure 5.

In this version by Daniel L. Stufflebeam, the function of evaluation in change activities has been added. Stufflebeam has also identified the agencies primarily involved in each activity except evaluation.

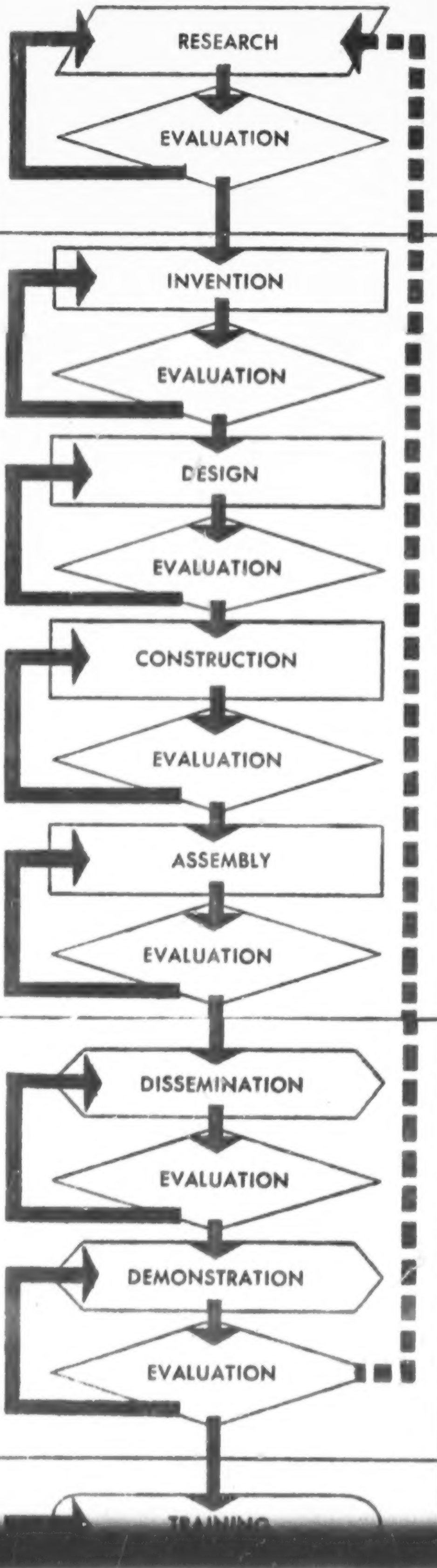
Donald W. Johnson sees the curriculum change process as including the following steps:

1. An existing program is evaluated with the use of standardized achievement tests to identify specific content or skills which students are not mastering.
2. Research literature is reviewed to determine if more effective methods have been developed that can be used to teach students the needed content or skills.
3. A revised course of study and teacher guides are developed, incorporating the modifications suggested by the research.
4. Additional equipment and materials needed for these modified instructional techniques are acquired.
5. In-service training meetings are conducted by administrative and supervisory staff in the use of the new equipment.
6. The new program is introduced to the classrooms (24).

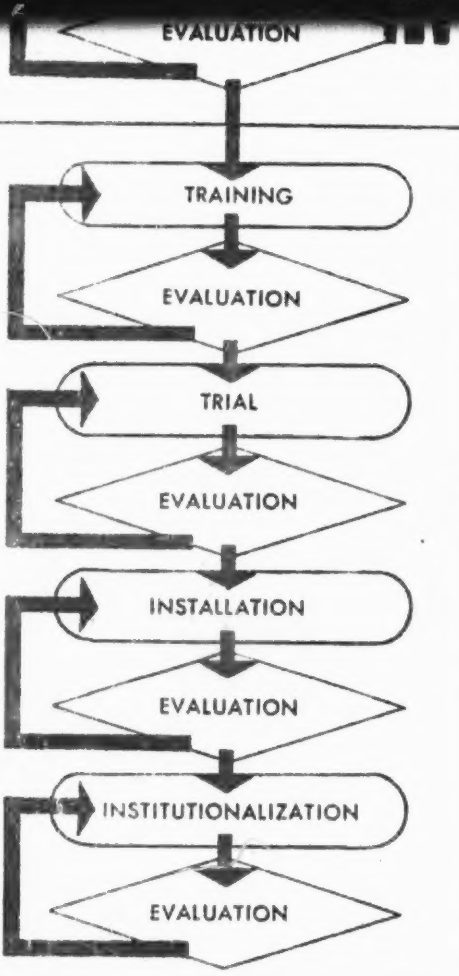
A CLASSIFICATION SCHEMA OF PROCESSES RELATED TO AND NECESSARY FOR CHANGE IN EDUCATION

	RESEARCH	DEVELOPMENT		DIFFUSION		ADOPTION		
		INVENTION	DESIGN	DISSEMINATION	DEMONSTRATION	TRIAL	INSTALLATION	INSTITUTIONALIZATION
OBJECTIVE	To advance knowledge	To formulate a new solution to an operating problem or to a class of operating problems, i.e., to innovate	To order and to systematize the components of the invented solution; to construct an innovation package for institutional use, i.e., to engineer	To create widespread awareness of the invention among practitioners, i.e., to inform	To afford an opportunity to examine and assess operating qualities of the invention, i.e., to build conviction	To build familiarity with the invention and provide a basis for assessing the quality, value, fit, and utility of the invention in a particular institution, i.e., to test	To fit the characteristics of the invention to the characteristics of the adopting institution, i.e., to operationalize	To assimilate the invention as an integral and accepted component of the system, i.e., to establish
CRITERIA	Validity (internal and external)	Face Validity (appropriateness) --- Estimated Viability --- Impact (relative contribution)	Institutional Feasibility --- Generalizability --- Performance	Intelligibility --- Fidelity --- Pervasiveness --- Impact (extent to which it affects key targets)	Credibility --- Convenience --- Evidential Assessment	Adaptability --- Feasibility --- Action	Effectiveness --- Efficiency ---	Continuity --- Valuation --- Support
RELATION TO CHANGE	Provides basis for invention	Produces the invention	Engineers and packages the invention	Informs about the invention	Builds conviction about the invention	Tries out the invention in the context of a particular situation	Operationalizes the invention for use in a specific institution	Establishes the invention as a part of an ongoing program; converts it to a "non-innovation"

A Process Chart Depicting the Role of Evaluation in the Change Process*



	AGENCY	OBJECTIVE	PROCESS	CRITERIA	RELATION TO CHANGE
RESEARCH	Universities, Research and Development Institutions, and Regional Laboratories.	To advance knowledge, i.e., to depict, correlate, conceptualize, and test.	RESEARCH EVALUATION	Validity (internal and external).	Provides basis for invention.
DEVELOPMENT	Universities, Research and Development Institutions, Regional Laboratories, and Industries.	To formulate a new solution to an operating problem or to a class of operating problems i.e., to innovate.	INVENTION EVALUATION	Face validity (appropriateness); estimated viability; impact (relative contribution).	Produces the invention.
		To draft a plan for constructing the innovation, i.e., to construct the blue-print.	DESIGN EVALUATION	Feasibility (production and utilization); tractability (ease of managing, controlling, and instructing in the use of).	Engineers the invention to fit the characteristics of the target situation.
		To build the components, i.e., to construct.	CONSTRUCTION EVALUATION	Design specifications; individual performance.	Produces the components necessary for implementing the design.
		To integrate the components into an operating system, i.e., to finalize for marketing.	ASSEMBLY EVALUATION	Design specifications; total performance, viability; efficiency.	Produces the coordinated operating system.
DIFFUSION	Government, Universities, and Regional Laboratories.	To create widespread awareness of the invention among practitioners, i.e., to inform.	DISSEMINATION EVALUATION	Intelligibility; fidelity; pervasiveness; impact (extent to which it affects key targets).	Informs about the invention.
		To afford an opportunity to examine and assess operating qualities of the invention, i.e., to build conviction.	DEMONSTRATION EVALUATION	Credibility; convenience; evidential assessment.	Builds conviction about the invention.
	Universities, Regional [illegible]	To [illegible]	TRAINING	[illegible]	[illegible]



		i.e., to build conviction	EVALUATION		
ADOPTION	Universities, Regional Laboratories, and Schools.	To train local personnel to manage, operate, service, and and utilize the innovation, i.e., to staff.	TRAINING EVALUATION	Quantity, continuity, aptitudes, motivation, and proficiency of trained personnel.	Establishes and maintains viability for operating the innovation.
		To build familiarity with the invention and provide a basis for assessing the quality, value, fit, and utility of the invention in a particular institution, i.e., to test.	TRIAL EVALUATION	Adaptability; feasibility; action.	Tries out the invention in the context of a particular situation.
		To fit the characteristics of the invention to the characteristics of the adopting institution, i.e., to operationalize.	INSTALLATION EVALUATION	Effectiveness; efficiency.	Operationalizes the invention for use in a specific institution.
		To assimilate the invention as an integral and accepted component of the system, i.e., to establish.	INSTITUTIONALIZATION EVALUATION	Continuity; valuation; support.	Establishes the invention as a part of an ongoing program; converts it to a "non-innovation."

* Based Upon "A Classification Scheme of Processes Related to and Necessary for Change in Education" by David L. Clark and Egon G. Guba.

Representative of quite a different view of the change process is that of Crookston and Blaesser. They view the change process as a force field as illustrated in Figure 6.

Restraining Forces	(m) (n) (o) - - - (etc.)
Present Level of Production	Quasi-stationary Equilibrium
Driving Forces	(a) (b) (c) - - - (etc.)

Figure 6

The present level of production or state of the educational system is viewed as a state of quasi-stationary equilibrium. This means that forces which would tend to change the state of the system are couterbalanced by restraining forces. These restraining forces are represented at the top of the diagram by m, n, o, etc. The forces of change or driving forces are represented by a, b, c, etc.

According to this diagram, change takes place if and only if an imbalance occurs between the sum of the driving forces and the sum of the restraining forces. This implies that in planned change, an imbalance must be brought about in such a way as to produce the change. It implies further that balance must be restored after the desired state of the system has been achieved in order to preserve it (10).

A practical approach to producing change on the local school level written with the individual practitioner in mind is proposed by David E. Dial, a high school principal. It is:

1. Determine what is being done now in your school system - Devise

a list of information needed. Ask teachers and administrators if necessary. You must know where you are before you see where you are going.

2. Compare your curriculum with those of other schools of the same size in the area. Also compare your new plan with those schools.
3. Now conduct research about the plan you are making; if it was tried before, how successful was it?
4. Make recommendations to your administrator in terms of what you have found, based upon comparisons and research.
5. Present the evidence in written form along with an oral report to the proper authorities.
6. Be firm with your beliefs, but willing to compromise. Allow the new idea to be put on a trial basis (13).

Decision

William R. Dill points out that the task of deciding is as common as the task of doing at each level of the administrative organization. He states further that directing and controlling the decision-making process are central functions of administration. He believes that it is not only central in the sense that it is more important than other functions but it is central in that all other functions of administration can best be interpreted in terms of the decision-making process.

Dill indicates that the present interest in decision-making symbolizes a fundamental reorientation in our view of organizations. This reorientation is encouraged by the rapidly developing liaison between researchers in administrative theory and those in economics, statistics, mathematics, and the behavioral sciences. As a basic framework for organizational analysis, the decision-making approach has power, breadth, as well as sympathetic connections with other disciplines.

He recalls that in the days of POSDCORB (Planning, Organizing, Staffing, Directing, Coordinating, Reporting, and Budgeting) it was fashionable to focus on the activities of administrators--of the "functions" they performed and on the way they spent their time. Yet even from charts of activities as detailed as that by Burns (4), it is hard to infer what holds organizations together and makes them progress.

Dill feels that the essential difference in the decision-making approach is that it highlights the goals, tasks, and choices that determine activities in organizations.

What administrators do and how they allocate their time is a product of what they want to achieve, and how they decide to proceed.

Single decisions can be isolated for study and analysis, and sequences of decisions - related one to the other by their contribution toward a common goal, by their contiguity in time, or by their sharing of the same subunits agenda - provide a skeletal outline of an organization's history. Few other approaches have shown the same power to illuminate the dynamics of organizational life (15; 200, 201).

Dill indicates that very little of the basic research on decision-making that has been done was based in school organizations. In building theories, educational administrators have borrowed heavily from ideas that developed from the study of industrial or governmental organizations.

The political control of school systems, the reluctance of academicians to dissect their own home environment, and the limits on resources for supporting either descriptive or normative research have all helped to prevent the kind of direct and unhampered attack that is needed on decision-making in educational organizations (15; 220).

Charles S. Levy proposes a classification scheme to assist decision-makers in arriving at realistic and thoughtful decisions. He points out, however, that decisions need not be the result of rational and scientific procedures to be adequate. He says that human decision is the exclusive domain of neither reason nor passion, but can provide for the harmonious representation of both. He feels further that human decision owes exclusive fealty neither to the decision-maker nor to his community, but must provide for the harmonious integration of the interest of both.

In his scheme he distinguishes between goals and means. He believes this to be essential for effective decision-making since they are at times both implicit in a decision and at times distinguishing characteristics of different decisions. Moreover, the distinction reflects numerous intangible but potent influences which perceptibly affect choice.

With this point of view, he breaks decisions into two major classes, goals and means. He further classifies each of these classes as general or social in level of application and as personal or social in focus of interest.

The resulting classification scheme is given in Figure 7.

Type of Issue	Primary peraonal interest	Personal interest with social effects	Primary social interest	Social interest with personal effects
General level				
goals				
means				
Specific level				
goals				
means				

Figure 7 (30)

Everett M. Rogers indicates that an innovation decision may be typed according to its unit of adoption or rejection. He proposes the following classification system for this purpose.

1. Optional Decisions - Made by an individual regardless of the decisions of other individuals in the social system.
2. Contingent Decisions - The individual may adopt an innovation only after a majority of the individuals in his social system has already made an adoption decision; he is not forced, however, to conform to the group decision.
3. Collective Decisions - Individuals in the social system agree to adopt or reject by consensus, and all must conform to the system's decision once it is made.

4. Authority Decisions - Those forced upon individuals by someone in a superordinate power position, such as a supervisor in a bureaucratic organization (39: 5, 6).

Five types of decisions and rationality have been identified by Paul Diesing. They are:

1. Technical - Choosing means which are adopted to the desired ends.
2. Legal - Applying a system of rules to prevent or settle disputes.
3. Economic - Transferring values between economic units and transferring values to economic ends within an economic unit (exchange and allocation).
4. Social - Making roles internally consistent, making pairs of roles fit together without conflict, making the sequence of roles which a person is expected to take action throughout his life contain no sharp discontinuities, making the social system compatible with the non-social environment, and developing a value system which reinforces the structure of roles.
5. Political - Organizing thought itself; the rationalizing of decision-making structures (14).

N.E. Salveson in his analysis of decisions has identified the following four kinds:

1. Understanding - Decisions as to the relevant and useful concepts of the real world.
2. Recognition - Assertion or denial that a particular object or set of objects belongs to one of the sets defined in decision of understanding.

3. Action - Decisions that relate to changes in the state of the universe by selecting courses of action.
4. Enterprise - Decisions which bound decisions of action (41).

David W. Conrath in constructing his model of suborganizational decision classifies decision as:

1. Institutional--Perceived by the decision maker to be of a repetitive nature and to have an irrevocable constraint time horizon of no larger than a single decision time period and,
2. Policy - Perceived by the decision maker to be of a "one shot" nature and/or to establish irrevocable constraints for a time horizon greater than the one usual for periodic decisions of the same type (9;44, 45).

A more elaborate classification system is given by Marion B. Nelson, Jr. He combines the classification systems developed by Funk and Livingston, Katz, Barnard, and Griffiths to classify decisions by problem type, related function of the public school superintendent, and origin.

Each of the above dimensions or categories are divided into subcategories as follows:

Problem Type

a. Human problem - Problems of working with people and the process of creating a cooperative effort within the staff.
b. Technical problem - Problems of methods, procedures, processes, or techniques necessary to the duties of the superintendent or staff.

c. Conceptual - The proficiency of the superintendent in originating ideas, sensing problems, thinking out solutions, and forming opinions.

Functions of Superintendents of Public Schools

a. Educational Programs - The daily duties connected with the school program and decisions concerning its effectiveness, evaluation and revision.

b. Community Relations - The superintendent's activities in community life, contacts with parents and other citizens, and interpretation of the school program to the public.

c. Developing Personnel - The superintendent's decisions concerning the selection, orientation, professional growth in-service, and evaluation of the entire staff.

d. Funds and Facilities - Decisions concerning sound principles, sound operational policies of the plant and facilities, and foresight in advance planning and coordination.

Origin of Decisions

a. Appellate Decisions - Referred to the superintendent from his subordinates or extraordinates.

b. Creative Decisions - Originating with the superintendent.

c. Intermediary Decisions - Orders, commands, or policies referred from superordinates to the superintendent for his action.

Nelson's classification system is illustrated in Figure 8.

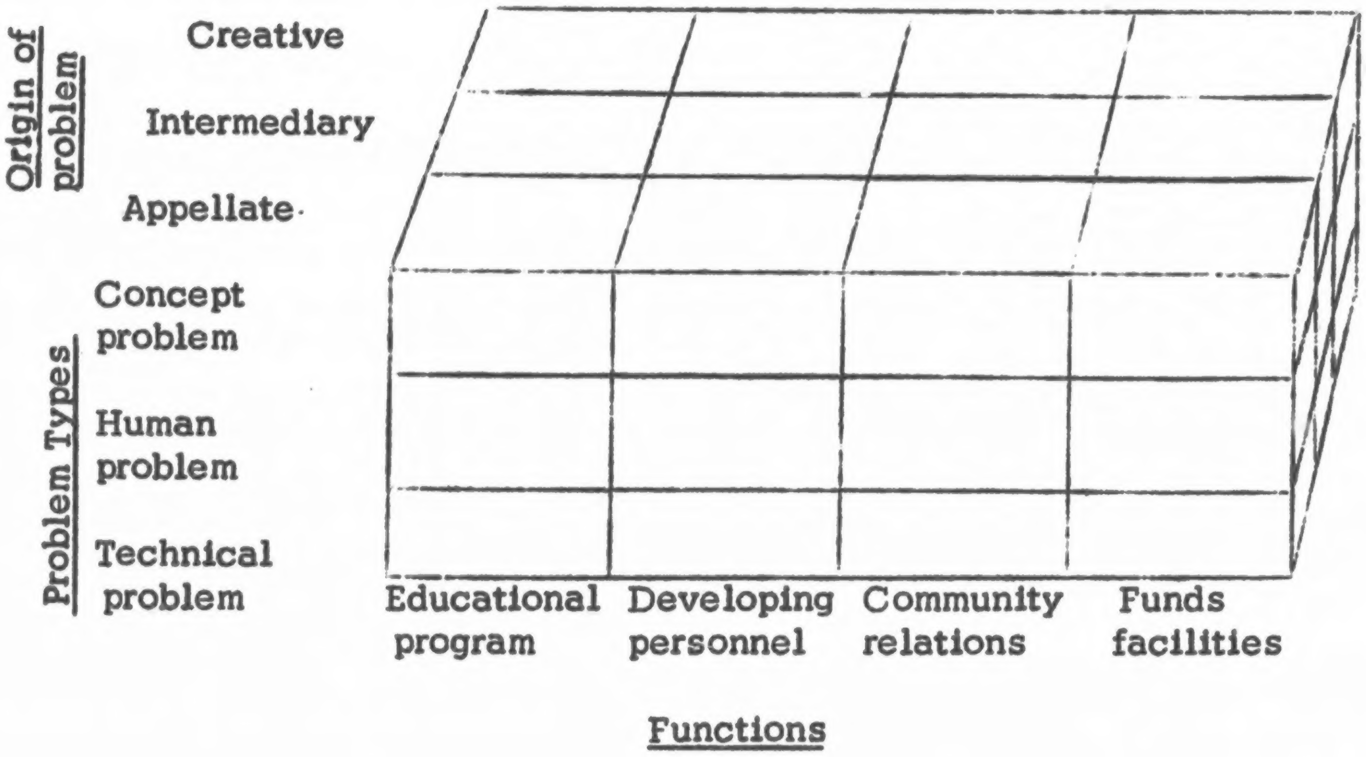

Origin of problem
Creative
Intermediary
Appellate
Problem Types
Concept problem
Human problem
Technical problem
Educational program
Developing personnel
Community relations
Funds facilities
Functions

Figure 8 (35; 10, 11, 12)

Though the classification systems discussed above have proven useful for the purposes for which they were constructed, the writer believes they are of limited use for suggesting to the project director the decisions he must make.

A classification system which may be of some use to the project director for this purpose is that given by Richard N. Schmidt. He identifies the following types of decisions:

1. Policy
2. Basic Product
3. Basic Process (42)

This classification system suggests that project policy, goals, and the means of attaining these goals need to be determined.

The most obvious weakness of Schmidt's classification system when used for the purpose of suggesting decisions is its coarseness. In other words, the proposed categories are too broad to be very suggestive to project directors of the decisions they need to make.

The decision process

Charles Z. Wilson and Marcus Alexis have identified at least six elements common to all decisions. They are:

(1) The state of nature.
(2) The decision-maker.
(3) The goals or ends to be served.
(4) The relevant alternatives and the set of actions from which a choice will be made.
(5) A relation which produces an ordering of alternatives in some arrangement.
(6) The choice itself, the selection of one or some combination of alternatives (55; 151).

He indicates, further, that in terms of the six elements common to all decision models, the ideal man makes a choice on the basis of:

(1) A known set of relevant alternatives with corresponding outcomes.
(2) An established rule or relation which produces an ordering of the alternatives.
(3) Maximizing something such as money rewards, income, physical goods, or some form of utility (55; 152).

Auren Vris has identified five factors that should be considered in making a decision. These conditions are:

1. Situation Assessment - Size up the decision situation by digging into the facts affecting it.
2. Self-analysis - Determine your individual slants and biases before deciding.

3. Adequacy of Alternatives - Be sure the scope and magnitude of your decision fit the situation.
4. Time - Don't rush your decision when there is additional need and time for research of facts.
5. Control - A firm unalterable decision is fine, but use a step-by-step building block control when possible (52).

Four broad classes of decision-making processes have been identified by Robert Dahl and Charles E. Lindblom:

1. The democratic - leaders are heavily influenced by non-leaders through such devices as nomination and election,
2. Hierarchical - leaders are heavily influenced by the structure of the hierarchy itself,
3. Bargaining - leaders to some degree interdependent with each other exercise reciprocal controls over each other,
4. The pricing system (11; 22, 23).

With regard to models of the decision process itself, one of the most elaborate is that by William J. Gore. Prominent in this model is the tension network. He states that choices, particularly choices between preferred values, are made within a tension network. This tension network seems to serve primarily as an organizing medium for the decision-making process. The model mediates between the private world of needs, urges, and aspiration in the center of each group and the real world, where the precious objects and values central to an organization's conception of itself may be accepted, rejected, or simply disregarded.

The four phases of the model are as follows:

Phase I - Perception

"Perception as used here means awareness of the existence of some situation requiring collective, as contrasted with individual, concern.

In phase one the character of the stimulus is made sufficiently concrete that it cannot be held to be something else. This phase also identifies the interests of the group doing the looking.

Phase II - Evaluative Set

The immediate purpose of this phase is to devise a response which is apparently satisfactory.

However, framing a response may raise the question of exactly what the problem is and what is sought through response. The answer to this question is sought during this phase.

Phase III - Estimation of Consequences

The decision-makers shift their attention from what is internally acceptable to what may be practicable. The difficulty here is to secure new organizational benefits without expenditures which some may consider excessive.

Phase IV - Maneuver for Position

This phase is a venture into the environment in order to seek external sanction for the proposed response (19).

A decision in Gore's heuristic system is a consensus arrived at through indigenous practices largely undisciplined by logic and untrammeled by scientific knowledge. Gore's model is representative of a group of decision processes termed "satisficing" or "bargaining" models. Since the researcher has taken the position that change should maximize progress toward goals while minimizing undesirable effects or outcomes, such decision processes will not be further considered in this study.

An ideal decision process has been put forth by Herbert A. Simon. He indicates that the task of rational decision involves three steps:

1. The listing of all the alternative strategies.
2. The determination of all the consequences that follow upon each of those strategies.
3. The comparative evaluation of these sets of consequences (46; 67).

He indicates that the word "all" is used advisedly since it is obviously impossible for the individual to know all his alternatives or all their consequences. It is precisely this fact that makes the process impractical or incomplete. Since all the consequences of all alternatives cannot be determined due chiefly to time and sensitivity constraints, it is necessary to determine ahead of time what information will be most useful in judging alternatives. This means establishing the criteria by which alternatives will be judged before the search for alternatives and the collection of information as to their possible outcomes. Failure to so specify criteria is one of the most common weaknesses of proposed decision processes.

Conceptualizations of the decision process which the writer feels may suffer from this weakness of not establishing the criteria early are as follows:

Decision process by Ethel Kowin

1. Recognition and definition of the problem.
2. Preliminary observation and collection of information.
3. Analysis of facts to see how they relate to the problem.
4. Formulation of possible solutions and evaluation of them.
5. Trying out the most promising solution.
6. Checking to see how the solution worked out.
7. Being ready to make changes in the problem solving plan (28).

Decision process by Peter F. Drucker

1. Defining the situation.
2. Determining what is relevant.
3. Determining the scope and validity of factual knowledge.
4. Developing all the alternative solutions.
5. Making the chosen solution effective in action. (16)

Decision process by E.H. Litchfield

1. Definition of the issue.
2. Analysis of the existing situation.
3. Calculation and delineation of alternatives.
4. Deliberation.
5. Choice (32).

Three phases of the decision process by Herbert A. Simon

1. Intelligence - Searching the environment for conditions calling for decision.
2. Design Activity - Inventing, developing, and analyzing possible courses of action.

2

3. Choice Activity - Selecting a particular course of action from those available (45; 2).

Decision process and model by George W. Porter

1. Definition - Gather and weigh facts to determine problem.
2. Examination - Look for alternatives and examine further need for material to substantiate arguments for decisions.
3. Solution - Make a decision based on collected material.
4. Implementation - Put decision into practice and follow through to assure it as correct.

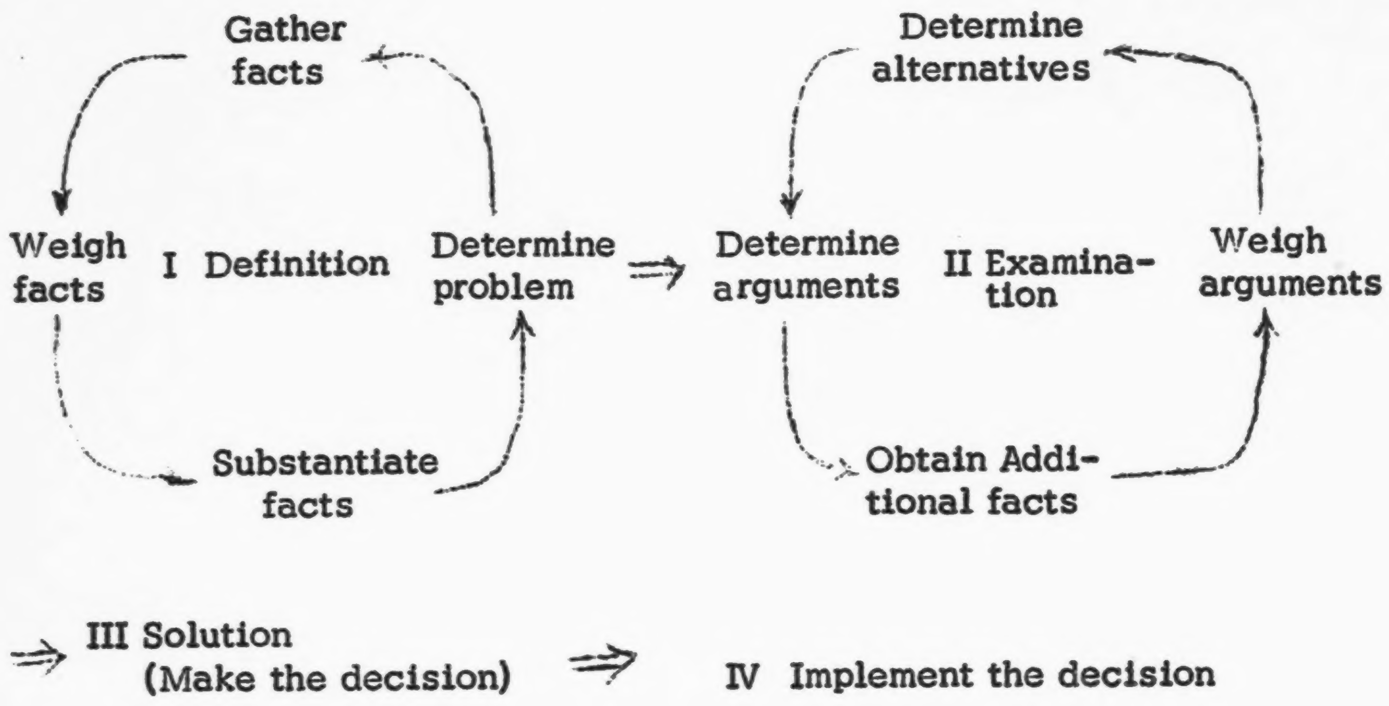

Gather facts
Weigh facts
I Definition
Determine problem
Substantiate facts
Determine alternatives
Determine arguments
II Examination
Weigh arguments
Obtain Additional facts
III Solution (Make the decision)
IV Implement the decision

Figure 9 (38)

Still other conceptualizations of the decision process which do not establish the criteria for decision are:

Decision process by Lynn W. Whiteside.

1. Clearly identify the situation that calls for a decision.
2. Determine the best time to make the decision.
3. Collect all pertinent facts.
4. Explore all possible decisions; consider all the alternatives.
5. Select the best possible decision-alternative (53).

Decision process by Orville G. Brim, Jr., David C. Glass, David E. Lavin, and Norman Goodman.

1. Identification of the problem.
2. Obtaining necessary information.
3. Production of possible solutions.
4. Evaluation of such problems.
5. Selection of a strategy for performance.
6. Actual performance of an action or actions, and subsequent learning and revision (3;9).

Decision process by John Dewey.

1. Perplexity or doubt.
2. Identification of the problem.
3. Suggestion of possible solution.
4. Development by reasoning of the bearing of the suggestion.
5. Observation and experimentation.
6. Acceptance or rejection (12; 72, 73, 74, 75, 76, 77, 78).

Creative process by Alex F. Osborne.

1. Orientation - pointing up the problem.
2. Preparation - gathering pertinent data.
3. Analysis - breaking down the relevant material.
4. Hypothesis - piling up alternatives by way of ideas.
5. Incubation - letting up, to invite illumination.
6. Synthesis - putting the pieces together.
7. Verification - judging the resultant ideas (37; 25).

Though the creative process given by Osborne has been classed with those which do not establish a set of criteria for judging alternatives, it has a strength not exhibited by any of the other decision processes reviewed by the writer. This strength is the inclusion of steps five (Incubation) and six (Synthesis). The researcher feels that often one does not choose an alternative as a whole but rather a revised form or a synthesis of several alternatives. Some may point out that these are just other alternatives but the writer believes there is merit in calling attention to the steps so frequently used in obtaining alternatives suited to the local needs.

Another common defect in conceptualizations of the decision process is a lack of search for alternatives. The following are some of the decision processes which the writer feels have this defect.

Decision by Percival M. Symonds.

1. Isolating the values involved.
2. Judging and selecting values.
3. Discovering the facts with regard to the situation.
4. Estimating the consequences of various alternatives in the light of values set up.
5. Weighing the relative strengths of satisfactions, dissatisfactions, comforts, pleasures, and annoyances that come from the values important in the situation in light of the probability of certain events happening (51; 125, 126, 127, 128, 129).

Decision Process by Everett M. Rogers.

1. Stimulation - Awareness by someone that a need for a certain innovation exists in the system.
2. Initiation - Promotion o the introduction of the new idea in the social system.
3. Legitimation - Decision to adopt or reject the innovation by those in power.
4. Execution - Putting the decision into action (39; 18).

The lack of a trial phase is another common shortcoming of proposed decision processes. As school systems grow larger, this phase becomes more important. Frequently a school system will spend thousands of dollars on untried programs, textbooks, etc. These innovations often do not bring the desired results and are modified or scrapped. In large school systems particularly, a trial phase could result in large saving of time and money.

The following are examples of decision processes that do not explicitly call for a trial phase.

Decision Process by Daniel E. Griffiths.

1. Recognize, define, and limit the problem.
2. Analyze and evaluate the problem.
3. Establish criteria or standards by which solution will be evaluated or judged as acceptable and adequate to the need.
4. Collect data.
5. Formulate and select the preferred solution or solutions. Test them in advance.

6. Put into effect the preferred solution.
    a. Program the solution.
    b. Control the activities in the program.
    c. Evaluate the results and the process (20; 94).

Decision Process: Seven categories of functional analysis by Harold D. Lasswell.

1. Intelligence
2. Recommendation
3. Prescription
4. Invocation
5. Application
6. Appraisal
7. Termination (29).

In terms of the writer's enlightenment, the decision processes reviewed in the remainder of this chapter are relatively complete.

The following decision processes, though relatively complete, seem to consider only expected outcomes, goals, and objectives as criteria rather than all possible outcomes important to the decision.

Decision process by William R. Dill

1. The agenda-building phase - Defining goals and assigning priorities for their completion.
2. The search phase - Finding or inventing alternate courses of action and finding information that can be used to evaluate them.

3. The commitment phase - Testing proposed alternatives to choose one for adoption or to postpone making the choice.
4. The implementation phase - Clarifying the meaning of a commitment for those who are to help carry it out, elaborating on new problems or commitments it leads to.
5. The evaluation phase - Examining the results of previous commitments and actions to find new problems (15; 201).

Model of the decision process by Gerald R. Smith.

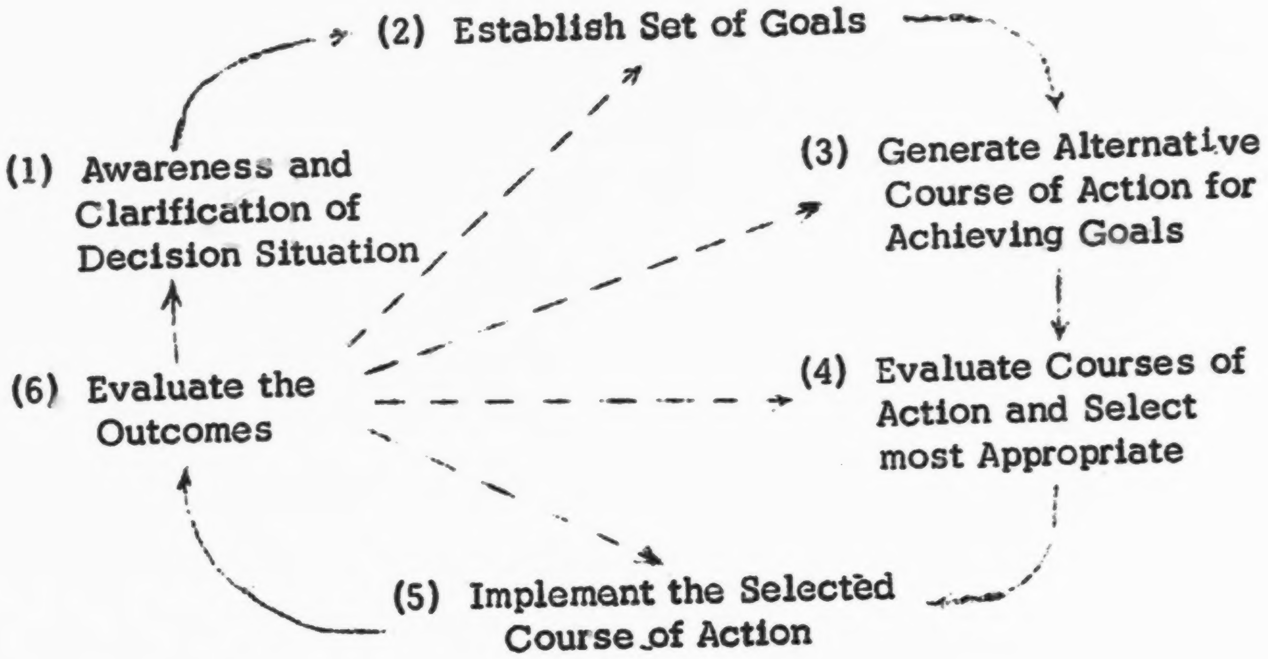

(2) Establish Set of Goals
(1) Awareness and Clarification of Decision Situation
(3) Generate Alternative Course of Action for Achieving Goals
(6) Evaluate the Outcomes
(4) Evaluate Courses of Action and Select most Appropriate
(5) Implement the Selected Course of Action

Figure 10

As indicated in the diagram, if the actual outcomes are not the expected ones or if unanticipated negative outcomes occur as well, the decision-maker may have to return to an earlier stage in the process and proceed through the succeeding stages again. Where he chooses to start again depends upon where he perceives the process has gone wrong (48; 4, 5, 6).

Decision process by Charles H. Kepner and Benjamin B. Tregoe.

1. Establish objectives.
2. Establish relative importance of objectives.
3. Develop alternative actions.
4. Evaluate alternatives against the established objectives.
5. Choose the alternative best able to achieve all the objectives as the tentative decision.
6. Explore the tentative decision for future possible adverse consequences.
7. Implement the final decision and control possible adverse consequences by taking other preventative actions (26;48, 49, 50, 51, 52, 53, 54, 55).

Decision process by Robert D. Calkins.

1. Identify problem and understand it.
2. Define and clarify the goals sought.
3. Pose alternatives for the attainment of these goals.
4. Analyze anticipated consequences of each major alternative.
5. Appraise and choose alternative (5).

The last decision process to be reviewed in this chapter is that proposed by H.B. Gelatt for use by counselors. Gelatt's model of the decision process is given in Figure 11.

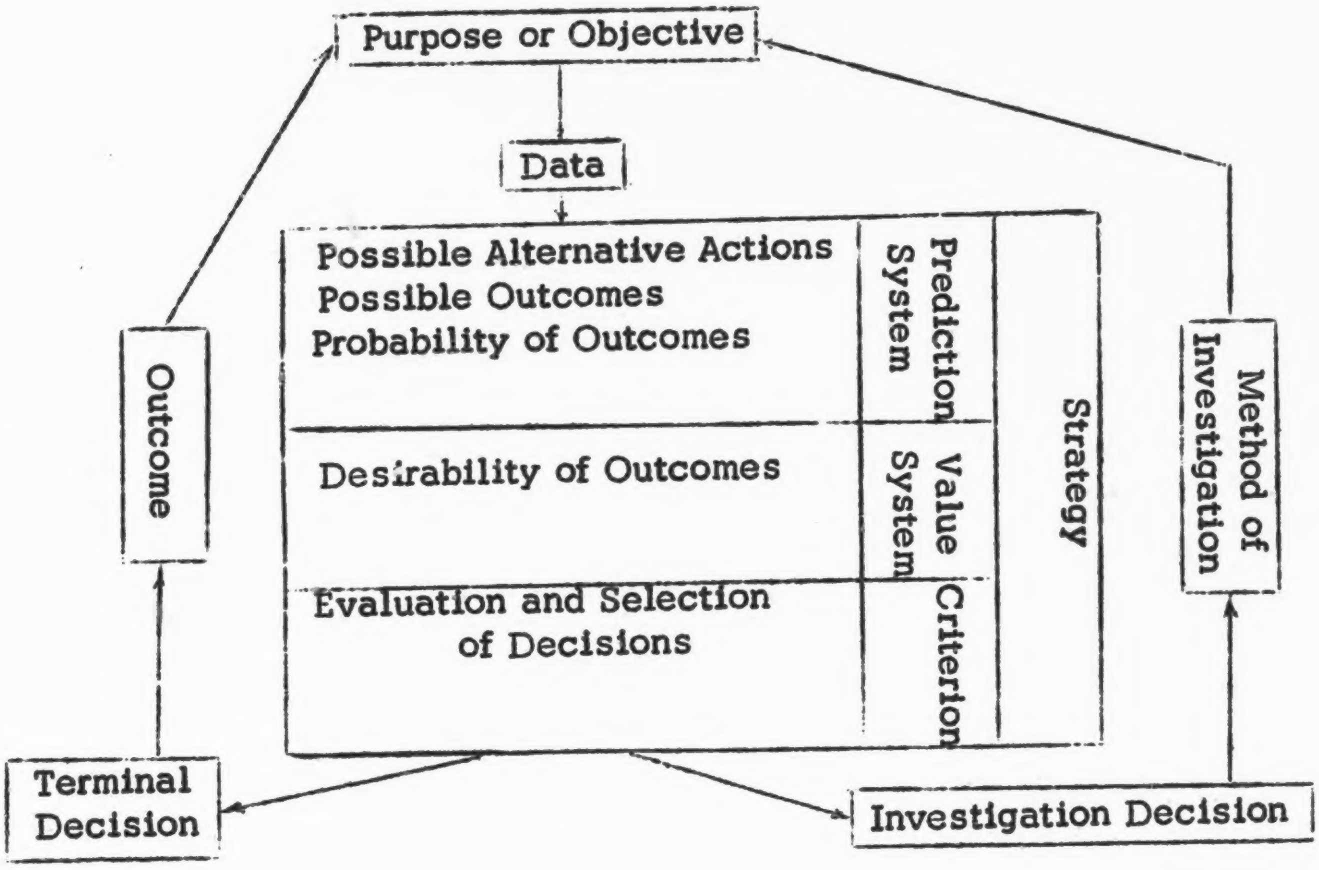

Purpose or Objective
Data
Possible Alternative Actions
Possible Outcomes
Probability of Outcomes
Prediction System
Desirability of Outcomes
Value System
Evaluation and Selection of Decisions
Criterion
Strategy
Outcome
Method of Investigation
Terminal Decision
Investigation Decision

Figure 11

He first suggests that decisions may be classified as terminal (final) or investigatory (calling for additional information). He indicates that an investigatory decision becomes a cycle, involving information gathering and decision-making, until a terminal decision is made. The investigatory cycle is represented by the right side of the model.

The terminal decision may also suggest a cycle as Gelatt indicates by the left side of the model. The outcome of a terminal decision may yield additional information which would lead to a decision to modify the results of the terminal decision.

According to Gelatt, the process of deciding requires a "Predictive System" (assessing the possible alternative actions, possible outcomes, and the probabilities), a "Value System" (weighing the desirability associated with outcomes), and a "Decision Criterion" (to integrate and select an appropriate action). These make up the center of the model and are termed strategy (18).

This process proposed by Gelatt, though not necessarily preferred by the writer, is probably the most complete of the decision processes reviewed. In particular, one should note the specification of possible outcomes prior to evaluation. The writer believes that it is important to anticipate possible outcomes early in the process in order to sensitize data collection in the evaluation phase.

In addition to the suggestions given thus far, the researcher feels that each of the conceptualizations of the decision process treated here could be improved by establishing a set of criteria for judging the performance of the decision-maker at each phase of the decision process. This is an integral part of the process, as it is a necessary guide to the actions of the decision-maker.

The decision process, whatever conceptualization of it one chooses, involves several sub-decisions, including what outcomes are most important, which alternatives should be tested, how the alternatives should be tested, etc. For this reason, the researcher believes a conceptualization of the decision process gives little direction or help to the decision-maker unless he has criteria to guide him through each stage of the process. It is something like building a house without any knowledge of what constitutes a good foundation, floor, etc.

In Chapter IV the author develops a logical framework in which to proceed with his study of decision.

CHAPTER IV

LOGICAL STRUCTURE

Introduction

The purpose of this chapter is to present the logical framework on which the study rests. The logical framework consists of Premises for Planned Change in American Education (assumptions), Anatomy of Planned Change in American Education (device to aid in the description or conceptualization of planned change situation), Typology of Planned Change (types of planned change), and the Planned Change Process (ideal process for bringing about change).

The term "school system" will be used frequently in the following discussion and the reader will find it helpful to understand what the writer includes under this heading.

An analogy between a school system and a manufacturing firm may help make it clear. A manufacturing firm is characterized by its human and physical resources, communication and evaluation systems, organizational structure, and a plan of operation, all of which have been assembled for the purpose of processing raw material into a finished product.

As in a manufacturing firm, a school system is characterized by its human and physical resources, communication and evaluation systems, organizational structure, and plan of operation, which have been assembled for the purpose of processing its students (target group) into a finished product. With the term school system so defined, students are not members of the system but are the object of school system efforts (raw material).

The investigator's reason for not including students under the term school system in the present study is to enable him to exclude product changes in the students (such as changes in student behavior and knowledge level) from the following discussion of planned change in American elementary and secondary public school systems.

The analogy drawn is not complete, however, for students used as tutors, office help, etc., will be considered part of the school system in this capacity.

Premises for planned change

The researcher believes that most would agree that planning educational change is important and submits below a set of statements in this connection with which there should be widespread agreement.

Premises for Planned Change in American Education

Major premises:

1. A school system should keep pace with the changing needs and demands of society.
2. A school system should keep pace with the changing needs of the students it serves.

3. A school system should keep pace with the changing needs and talents of its staff.
4. A school system should keep pace with the advances of research and technology.
5. A school system should keep pace with changes in the availability and values of resources.

Minor premises:

1. The needs and potential needs of individuals and of society should be better recognized and educational programs tailored to meet them.
2. Human talents and skills should be better developed and utilized more efficiently.
3. Curriculum content and arrangement should be better tailored to the purposes and resources of the school system.
4. Time allotments, schedules, methods, and policies should be better tailored to the purposes and resources of the school system.
5. Instructional materials and teaching aids should be improved and utilized more efficiently.
6. Physical facilities should be improved and utilized more efficiently.

Anatomy of planned change

The Premises of Planned Change listed above are an indication of the goals of planned change. In listing these goals the premises have indicated the objects of change efforts (the parts of the school system being changed) and the considerations that should guide such change efforts.

If one knows the objects of change, the scope or unit of change, and the influences of change, one has a rough description of the change situation.

In particular, a change in American education can be roughly described by the school unit being changed, the specific objects of change, and the influences in the change situation. A diagram useful in such description is given in Figure 12.

Anatomy of Planned Change in American Education

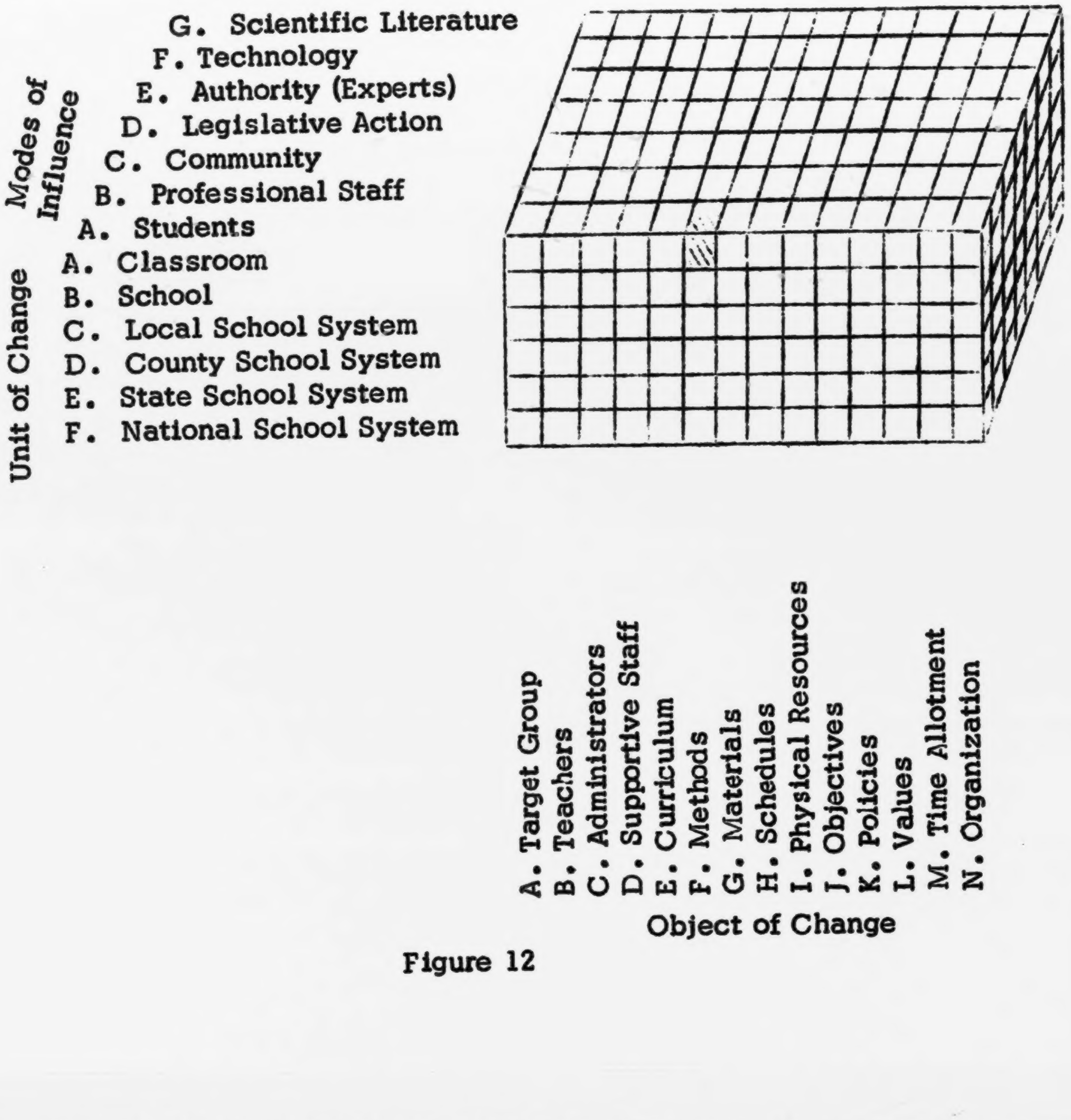

G. Scientific Literature
F. Technology
E. Authority (Experts)
D. Legislative Action
C. Community
B. Professional Staff
A. Students
Modes of Influence
A. Classroom
B. School
C. Local School System
D. County School System
E. State School System
F. National School System
Unit of Change
A. Target Group
B. Teachers
C. Administrators
D. Supportive Staff
E. Curriculum
F. Methods
G. Materials
H. Schedules
I. Physical Resources
J. Objectives
K. Policies
L. Values
M. Time Allotment
N. Organization
Object of Change

Figure 12

Modes of Influence - that which influenced or is influencing change, that is, influences goals and the manner in which goals are met.

Unit of Change - the unit of the American educational system involved in the change.

Object of Change - the element of the school system that is being or is to be changed.

Each cell or group of cells represents a change situation. The shaded cell represents a simple change situation in which students are influencing in some manner a change of methods used in a classroom.

Typology of planned change

The proposed Anatomy of Planned Change indicates both the sources of influence and the objects of change but raises the question as to the forms influences and changes may take.

The types or forms of influence for change are being ignored for purposes of the present study but the following Typology of Planned Change is posed as an answer to the question as to the forms planned changes may take.

Typology of Planned Change in American Education

(Local School System)

A. Change of target

The target group of this school system is changed in some manner such as redefining subgroups, increasing the size of some subgroup, or changing other properties of the target group important to the school system. (The target group will be regarded as the same if all changes in the group or ways of viewing the group are of little importance to the school.)

Example: The school system decides to provide a special program for the mentally retarded.

B. Setting of objectives

The educational goals are set for a new or newly defined target group. (An objective must specify what, to whom, by when, and how much.) Example: An educational system sets the educational goals for a proposed program for the mentally retarded.

C. Change of objectives

The target group remains basically the same but the educational goals are changed in some manner. Example: A school system sets a new goal of having all students obtain a typing speed of at least fifty words per minute before graduation.

D. Setting of relative importance of objectives

The relative importance of a new or changed set of educational goals is established. Example: The relative importance of the objectives for a proposed program for the mentally retarded is established.

E. Change in relative importance of objectives

The educational goals remain the same but some change is made in their relative emphasis. Example: School administrators decide that social adjustment is twice as important as achievement in reading rather than of equal importance as in the past.

F. Policy establishment

An accepted plan of action in a new or anticipated situation is established. Example: It is decided that when the proposed program for the mentally retarded runs short of funds that the necessary funds will be obtained from the general fund.

G. Policy replacement

A change is made in some accepted plan of action. Example: Parents are encouraged to visit school, where in the past this has been discouraged.

H. Program establishment

A program at least partially aimed at new objectives is adopted or a program aimed at objectives no longer functioning is deleted. (A program is a general plan for obtaining educational objectives. It specifies roles, curriculum content and organization, needed resources, communication, and evaluation plans.) Example: A program to teach swimming is instituted into a school where it had not been taught before.

I. Program replacement

The existing program is replaced or partially replaced by a new or modified program aimed at the same objectives. Example: The adoption of a new mathematics program while retaining the same objectives.

J. Resource provision or disposal

The resources necessary for a new or modified program are acquired or resources no longer needed are disposed of. Example: The school system has a swimming pool built for the proposed swimming classes.

K. Resource incrementation

The program and type of resources remain basically the same but some adjustment is made to alter resource/student ratio or resource/teacher ratio, etc. This is done by tapping outside sources for additional resources or by eliminating a portion of the resources presently available to the system. Example: More teachers are hired to decrease the student/teacher ratio.

L. Resource reallocation

Resources are reallocated from one phase of the total school program to other phases of the program. Example: The reduction of school room space devoted to the teaching of English and the distribution of this space to other subject areas.

M. Resource modification

The program and resources remain basically the same but a modification is made in the makeup of a resource. Example: An in-service program results in improved teachers.

N. Resource replacement

The program remains basically the same but resources are replaced which are lost, found inferior, or used up. Example: A teacher is replaced by a better teacher.

Planned change process

With the types of planned change now identified, it is possible to conceptualize the manner in which such changes should be initiated.

A general change process thought to be suitable for each type of change listed in the Typology of Planned Change is given below.

Planned Change Process in American Education

1. Problem recognition

   The recognition by responsible members of the local school system that a problem exists. This may take the form of recognition or suspicion that improvement is possible.

2. Definition of problem

   The identification of what the problem or potential problem is and is not. This should take the form of specifying what is wrong and what is not wrong.

3. Establishing probable cause of problem

   The search for possible causes and the comparing of these causes with what is known about the problem. This is done to determine the most probable cause.

4. Establishing the criteria for judging alternative innovations

   The establishing of the basis on which alternative approaches to the problem will be judged. This is specification of musts, wants, and the relative importance of the wants.

5. Exploring alternatives

The search for alternative approaches to the problem.

6. Design of potential innovation

The piecing together of the ideas gained through the search for alternatives into an approach to the problem judged to be best in terms of the criteria.

7. Trial

The testing of the newly designed innovation by simulation, trial on a sample of the target group, or other means to determine its feasibility, efficiency, and effectiveness. The data gained from the trial period is compared with expectations, data from control group, pre-innovation, data, or other.

8. Implementation

Installation of the innovation along with the preparation of the school community and innovation for installation. This step includes such activities as teacher orientation, procurement of resources, adjustments in the plan of innovation, etc.

9. Adaptation

The period after installation when the innovation receives special attention in an attempt to correct difficulties and identify needs in an effort to increase its effectiveness.

10. Institutionalization

The innovation is no longer new and receives no more attention than many other phases of the total school program. It is now an integral part of the school program.

The Premises of Planned Change, Anatomy of Planned Change, Typology of Planned Change, and the Planned Change Process represent the complete logical basis for the present study. However, the study will rest most directly on the Typology of Planned Change and the Planned Change Process.

It is anticipated that the types of planned change will parallel closely the types of decisions in planned change. Thus the Typology of Planned Change should serve as an aid in the development of and as a check on the proposed classification system for decision situations.

The Planned Change Process will serve as a basis for the development of the decision process in planned change for American education at the local school system level.

Chapter V presents the author's conceptualization of the decision process.

CHAPTER V

SCHEMA FOR ADMINISTRATIVE DECISION

Introduction

In this chapter the writer proposes a decision process for use by administrators of Title I projects at the local school system level. This schema for administrative decision is based upon, but differs from and supplements, those available in the literature. It outlines the steps which, based upon his research, the writer believes necessary for consistency in making good decisions.

The researcher wishes to emphasize his opinion that the outlined steps are necessary for a decision-maker to be consistent in making good decisions, but warns that following the proposed steps is not sufficient in itself. Pitching twenty games of baseball is a necessary condition to becoming a twenty game winner; however, it is not a sufficient condition. A poor performance in any game may keep a person from achieving such perfection. In other words, the quality of each performance is also important to reaching the goal of becoming a twenty game winner.

In an analogous manner the quality of the decision-maker's performance at each stage or step of the decision process is important to the quality and reliability of the outcome. With this in mind, the researcher has included in the decision schema a set of criteria by which the performance of each step of the decision process can be judged.

Schema for administrative decision

The proposed schema for administrative decision in Title I projects of American education is given in Figure 13.

The format of the decision process is patterned after Clark and Guba's schema for change in education (see page 37). The successive steps of the process are given from left to right across the top of the schema. Under each step are listed the objective of the step, a set of criteria for judging performance of the step, and the relation of the step to the change process.

The researcher has defined the decision process to begin with recognition of the need or potential need for an alternative and to end with implementation of the chosen course of action.

Problem analysis has not been included in the proposed schema as has been done in many other conceptualizations of the decision process. Its exclusion was not because of any feeling on the writer's part that problem analysis is unimportant. In fact, the researcher has assumed that the proposed decision process has been preceded by a problem analysis similar to the first three steps (problem recognition, definition of the problem, and establishing probable cause of problem) of the Planned Change Process given in the logical structure.

The Planned Change Process divides naturally by function into three subprocesses: problem analysis; decision process; and integration

Schema for Administrative Decision

Exploring alternatives	Establishing alternatives to be tested	Trial	Data analysis (weighing of alternatives)	Decision point	Implementation
To become acquainted with a representative range of possible courses of action	To design or identify the most feasible alternatives	To provide product and process information about alternatives	To weigh alternatives in terms of criteria	To choose best alternative	To prepare the innovation and school community for the installation of the innovation into the school system
The extent to which the set of explored alternatives are representative of the full range of feasible alternatives Imaginative Varied Numerous	Face validity (based on own experience and that of others) Construct validity Potential impact Relative contribution	Relevance of information to criteria and problems Valid experimental and aexperimental designs Reliable, valid, and discriminating measures	Appropriateness to data Intelligibility to consumer Statistical power	Highest weight	
Establishes a range of alternatives from which to choose or to serve as a stimulus for the designs of the proposed changes	Establishes the set of proposed changes	Provides information necessary for evaluating proposed changes	Evaluates proposed changes in terms of the criteria	Establishes proposed direction of change	Sets proposed change into motion

Schema for Admi

	Recognition of need or potential need for alternative	Establishing criteria for judging alternatives	Exploring alternatives
Objective		To establish a basis for judging alternative courses of action (musts, wants, costs, negative outcomes, etc. with their relative importance)	To become acquainted with a representative range of possible courses of action
Criteria		Internally consistent Externally consistent Exhaustive	The extent to which the set of explored alternatives are representative of the full range of feasible alternatives Imaginative Varied Numerous
Relation to change	Recognizing the need for change	Establishes guidelines for the change process	Establishes a range of alternatives from which to choose or to serve as a stimulus for the designs of the proposed changes

process, integrating the chosen course of action into the school system.

The researcher has chosen to view the Planned Change Process as composed of these three subprocesses and to confine the present study to decision.

The researcher was torn between considering implementation as part of the decision process or as part of the integration process. The conclusion was reached that the major function of implementation is that of acting upon the decision rather than that of integrating the chosen course of action into the school system. With the inclusion of implementation in the decision process, choices not acted upon are not considered to be decisions. It should be emphasized, however, that a choice to make no change is a decision when no alteration is made.

One may wonder, then, does the inclusion of implementation in the decision process exclude any choice of action from being classified as a decision that would be otherwise so categorized? Obviously the writer belives it does. To take a case in point, a decision-maker may choose to take a certain action but be relieved of his authority before being able to act upon his choice. The writer would like to exclude from decision all choices that are not implemented whether due to lack of authority, laziness, carelessness, or another cause.

The following are the steps of the decision process as outlined by the writer.

A. Recognition of need or potential need for an alternative.

As was indicated earlier, the decision schema assumes that the decision-maker has performed a problem analysis prior to embarking upon the decision process. Thus, recognition of need or potential need of an alternative means the problem has been defined and the probable cause established as well as constraining factors allow. Thus, the object of action has been fairly well identified.

B. Establishing criteria for judging alternatives.

With the need as well defined as indicated in A, it should now be possible to establish the guidelines for change. This means indicating musts, wants, costs, and other possible positive or negative effects along with their relative importance.

Obviously the decision-maker is not free to set the guidelines or criteria as he chooses. First, the criteria should be internally consistent. This means that such contradictory or opposing objectives as to teach for honesty and at the same time teach children to cheat should be avoided. The criteria should also be consistent with the total school program (externally consistent). Finally the criteria should be exhaustive; that is, the criteria should encompass all objectives important to the problem and all important costs and other negative effects that are apt to result from alternative courses of action.

It is recognized that subsequent stages of the decision process such as exploration of alternative courses of action or the trial phase may shed light on additional variables that should be considered as criteria. Therefore, it is often necessary to adjust the criteria as one moves through the decision process. This phase established the guidelines for the change process.

C. Exploring alternatives.

With the criteria (musts, wants, etc.) now established, it is possible to look intelligently for alternative courses of action.

This is potentially one of the most time consuming phases of the decision process and is often cut short because of time constraints. Done well, this phase would include exploring the literature for alternatives, traveling to or corresponding with other school systems concerning their program, asking staff members and consultants for suggestions, etc. This phase can also include much reflection and creative thinking on the part of the decision-maker.

As Osborn indicates, generating a great number of alternatives seems to improve the quality of decision (37; 151). The generated set of alternatives should represent a wide range of feasible alternatives as quantity is of little use if there are only small differences in approach or if few are feasible. To obtain the desired range of approaches, the decision-maker must be creative, bold, and not fail to entertain ideas that some might consider ridiculous in his search for alternatives.

D. Establishing alternatives to be tested.

Usually time, money, etc., will not allow testing of all the alternatives generated in the search for alternatives. This is particularly true if one has been able to generate many alternatives.

Since extensive testing of all alternatives is often impossible or not worth the time and cost of doing so, the decision-maker must decide which alternatives he wishes to test. It seems reasonable to expect that the criteria would serve to guide the decision-maker in his choice.

In the process of choosing a textbook for adoption, one could not try every possible text even if he chose to do so if only because, textbooks are being written faster than they could be tried.

This is true of many situations. Alternatives continue to be developed. At some time one must decide to stop his search for alternatives and decide in some manner which alternatives should be tested. The decision to stop may be brought on by urgency or just by the belief that the benefits to be derived from further search are not worth the effort, as when one feels that additional search would turn up nothing very different from alternatives already considered.

The selection of the alternatives to be tested is a preliminary screening of the generated set of alternatives. Often this is done by judging from a post hoc study of the experiences of others, and from one's own experiences, the face validity of each alternative.

Another means of screening the alternatives is through construct validity. This means determining what theory would predict for each alternative.

Finally, potential impact or relative contribution should be considered in the screening process. An alternative with high potential impact or high relative contribution may be worth testing even when the decision-maker gives it little chance of succeeding in this particular situation.

E. Trial

It should be remembered that a decision-maker always has the option of continuing with the present program. Therefore, at the trial stage of decision there still remain at least two alternatives, to make no change at all or to choose an alternative being tested. This phase and the succeeding two phases of the decision process constitute the final screening of alternatives.

The researcher recommends that most trials be on a small scale, thus conserving resources and reducing commitment to an alternative. This is contrary to common practice in local school systems of today. Seldom are new textbooks, courses, programs, etc., tried on a small scale. More commonly they are installed immediately on a full scale basis. Administrators having thus committed themselves and large amounts of resources to what has turned out to be a poor project feel obligated to follow through on their commitment trying to make it work rather than take the loss and renew the search.

This is particularly true of federally funded projects. These projects are often installed without a local trial and when they fall short, administrators are in the position of admitting shortcomings and losing both face and funds, or shutting their eyes to some extent, patching things up as best they can, and warding off those who attempt to evaluate.

The purpose of the trial is to provide product and process information about alternatives before the commitment becomes too great.

By product information the writer means an assessment of outcomes in terms of the criteria. By process information he means the identification of problems or potential problems of procedural design or its implementation.

When collection of information is involved one must be sure that it is correct and useful information. In other words it must be relevant to the criteria and problems, be collected by means of valid experimental and aexperimental designs, and be measured by means of valid, reliable, and discriminating instruments of measure.

F. Data analysis (weighing of alternatives).

The purpose of this stage, the second of the final screening activity, is to provide a summary of the measures of alternative performances during the trial phase.

The procedures at this stage are often similar to those of an engineer who finds the average (best estimate) of several measures of an independent variable and then makes use of this value in a formula to obtain an estimate of a dependent variable. In this stage the decision-maker may seek a best estimate of each alternative's performance on each criterion variable and use these estimates to determine which alternative gave the best all around performance.

Usually there are several mathematical procedures that can be used in the analysis of a given set of data. Therefore, the means of analysis should be chosen on the basis of appropriateness to data, intelligibility to consumer, and, when appropriate, statistical power.

The result of this phase or stage of the decision process is an evaluation of each of the alternatives in terms of the criteria.

G. Decision point.

It is here that the decision-maker makes his final choice of the action to be taken. The choice should be based on the highest potential or weight that is offered by the alternatives tried (including the alternative to make no change). This choice establishes the direction in which change will go.

H. Implementation.

In this stage, action is taken relative to the chosen alternative. Both the school system and the innovation undergo preparation prior to installation of the plan. This includes acquiring needed resources, in-service training, making needed changes indicated by the trial phase, etc. The course of action has now been chosen and implemented.

The decision process has been presented as if it proceeded in a continuous fashion from Recognition of Need or Potential Need for Alternative through succeeding steps to implementation. This is misleading, for decision-makers often find a need to reassess and alter the results of some previous stage. For example, the search for alternative courses of action or the trial phase may uncover or bring to mind criterion variables of importance to the final decision that were overlooked when the criteria were first established. Subsequent phases of the decision process may also shed new light on the relative importance of the criterion variables.

Caution should be used in the readjustment of criterion variables and their relative importance so that readjustment does not become a function of a desire to make a preferred alternative come out ahead rather than a function of new insight regarding criteria.

In like manner, phases subsequent to Exploration of Alternatives may bring to mind new alternatives, or the trial phase may indicate a need to renew the search for alternative courses of action.

In other words, more often than not, there is a need to reassess one's work at a previous stage. However, if progress is to be made in the making of a decision there must be a general movement from the recognition of a need for an alternative to implementation of a plan. To get hung up or stalled at some stage of the decision process is equivalent to a decision to make no change. A decision-maker must recognize the consequences of indecision or the consumption of too much time in making the decision.

The author wishes to call attention to the fact that the emphasis that should be placed on the various phases of the decision process is dependent upon the nature of the decision. For instance, making a decision as to whether to serve kindergarteners milk or not would not require an extensive search for alternatives since there are but two (to serve milk or not to serve milk).

At times the trial phase is de-emphasized or eliminated. This may be done when the consequences of not maximizing utility are relatively unimportant (as in buying paper clips), too time consuming, too costly, etc., or when a trial is impossible (as in deciding whether students should be permitted to watch the launching of the first rocket to Mars or made to continue with their regular studies).

In decisions where the stakes are high, the decision-maker should make every effort to follow all applicable steps of the decision process and to perform them well.

Finally, the researcher would like to comment that although the Schema for Administrative Decision in American Education assumes that the goal of the decision-maker is one of maximizing utility in terms of the criterion variables, it is often true that one of the criterion variables is the satisfaction or reaction of school constituency. Thus the author claims that satisfying or bargaining models are a special case of the model presented in Figure 13.

Chapter VI is directed toward helping directors of Title I projects see the decision situations that confront them.

CHAPTER VI

CLASSIFICATION SYSTEM FOR DECISION SITUATIONS IN TITLE I PROJECTS

Introduction

The writer is presenting in this chapter a list of decision situations typical of those confronting project directors. A complete list of the decision situations recorded by the researcher is given in Appendix A.

In addition to the ability to make good decisions, a decision-maker must possess the ability to recognize the decision situations that confront him. The classification system or listing of Title I project decision situations is submitted for the purpose of sensitizing project directors to the decision situations with which they are confronted.

Just how important is it that project directors be sensitive to the decision situations that confront them? Or to ask a related question, what is the result of failure to recognize a decision situation? There may be one or more of several results. First, by not recognizing that there is an alternative to the present mode of action, project directors perpetuate the present state of the system. The result is equivalent to a decision to make no change.

In other words, it is possible for projects to mark time or fail to make progress, not because project directors have made poor decisions, but because they fail to recognize the decision situations that confront them.

A second possible result is that someone else will see the decision situation and make the decision in place of the project director. By not recognizing the situation the project director leaves it to chance as to who will make the needed decision. There is no guarantee as to the secondary decision-maker's qualifications or that he has the information necessary to make an intelligent decision.

A third result may be that there is lack of provision for needs. An example would be when project directors fail to recognize the need to analyze the target group and decide on subgroups to receive special attention. Failure to recognize this decision situation probably would result in the target group being conceived as homogeneous with little provision for the needs of different subgroups.

Still another possibility is that provision for needs is made by chance selection. For instance, if a project director does not decide on appropriate evaluation and communication procedures within the project, he, to some extent, is leaving it to chance that he will get the necessary feedback to run the project effectively. The result is that the direction of the project is somewhat left to chance.

In constructing a classification system one faces the problem of defining meaningful and mutually exclusive categories. To this end the researcher has chosen to classify decision situations by focus of change, that is, the part of the school system for which change is being considered.

The major categories of focus of change have been borrowed from the Typology of Planned Change in American Education. These major categories are decisions relative to Target, General Policy, Objectives, Program, Resources, Schedules, and Program Policy. To increase the classification systems suggestive power to project directors, a finer breakdown has been provided within each of these major categories.

If decision situations of two or more of the resulting categories are under consideration at the same time they will be regarded as distinct. For example, the general question, "Which part of the project should be changed," would be replaced by the set of questions, "Should the target be changed," "Should the objectives be changed," etc.

With these introductory remarks, the writer submits the following classification system for decision situations in Title I projects at the local school system level.

Classification system for decision situations in the adoption phases of Title I projects at the local school system level

Decisions relative to:

1. Target (Who?)
   - A. How should the target be defined? (Who is in and who is out?)
   - B. How should the target be conceived? (What subgroups should be recognized?)

II. General Policy (What are general project guidelines?)

   A. What are the areas of project responsibility and the extent of this responsibility?

   B. What are project restraints (funds, time, space, etc.)?

   C. What are the guidelines for program construction?

   D. What are the guidelines for resource acquisition and disposal?

   E. What are the guidelines for resource care and maintenance?

   F. What are the guidelines for scheduling?

III. Objectives (What?; To whom?; How much?; By when?; With what priority?) - in terms of target and general policy.

   A. What changes do we want to take place in each subgroup of the target?

   B. How will we recognize each of these changes?

   C. To what extent should these changes take place?

   D. By what time should the proposed changes take place?

   E. What is the relative importance of achieving the proposed changes?

IV. Program (How?) - in terms of present state of target, general policy, and educational objectives.

   A. What should the treatments (curriculum content, etc.) be in order to meet educational objectives?

   B. How should the treatments be organized? (prerequisites, year offered, etc.).

C. What classes or types of personnel are needed? (administrators, teachers, supportive staff, etc.).

D. What are the roles of each personnel type, such as principal, teacher, custodian? (What each job classification is to do and not do and its relationship to other roles.)

E. What classes or types of physical facilities are needed? (Classroom space, blackboards, storage closets, etc.)

F. What should be the function of each type of physical facility?

G. Where should components of the program be located?

H. With what outside groups and organizations should the project cooperate?

I. What role relative to the school should each of these groups play?

J. What evaluation information should be collected?

K. How should this information be collected, analyzed, and stored?

L. To whom and when should each type of information be given or made available?

M. According to roles and types of information, what should be the various channels of communication?

N. What form should each communication take?

V. Resources (With what?) - in terms of present state of target group, general policy, objectives, and program.

  A. What should be the minimal and desired quality of resources filling each role and function?

  B. What funds should be made available for procurement of personnel and physical resources?

  C. How should resources be allocated?

  D. What specific resources should be procured? (Mr. A or Mrs. B; Lindy pens or Bik pens, etc.)

  E. What efforts will be made to improve or modify present personnel or physical resources? (In-service training for teachers, changing color of blackboards, etc.)

  F. Which resources should be replaced?

  G. What resources are in need of disposal?

  H. What should resource acquisition and disposal procedures be?

  I. How should time be allocated in the present program?

VI. Schedules (When?) - in terms of target group, general policies, objectives, program, and resources.

  A. What should the time schedules be within each phase of the program?

  B. What should the overall schedule be?

VII. Program Policy (What are the guidelines for action within the program?)

A. What policies need establishing?

B. Who should set the various types of policies?

C. What should the policy be?

It should be noted that the author's conceptualization of "program" is the project's total plan for meeting project objectives. The program defines the roles of needed resources but does not fill them. For example, the role of the principal is part of the program but the principal himself is not.

Of course one must know the types of resources that are available before he can construct a workable program. But a program is usually not so linked to a specific person or other resource that it could not be replaced by a similar type of resource without greatly changing the program.

The following chapter summarizes, evaluates, and gives implications of the study described in the first six chapters of this dissertation.

CHAPTER VII

SUMMARY, EVALUATION, AND IMPLICATIONS OF THE STUDY

Summary

The objective of this study has been to develop a decision framework to aid Title I project directors in planning change.

To obtain information which would be helpful in the construction of such a framework, a review of the literature on change, the change process, decision, and the decision process has been made and the Title I projects of Columbus, Ohio have been monitored and decision situations recorded.

One of the researcher's first steps was the construction of a framework within which to study planned change. This framework consists of Premises for Planned Change, Anatomy of Planned Change, Typology of Planned Change, and the Planned Change Process. The Planned Change Process was sub-divided by function into three subprocesses; Problem Analysis, Decision Process, and Integration Process. The present study has concentrated on decision in the change process.

A close look at the decision process has led the decision-maker to identify the following steps as necessary for consistency in making good decisions.

1. Recognition of need or potential need for alternatives.
2. Establishing criteria for judging alternatives.
3. Exploring alternatives.
4. Establishing alternatives to be tested.
5. Trial.
6. Data analysis.
7. Decision point.
8. Implementation.

It has been pointed out in the study that although the author feels the indicated steps are necessary for consistency in good decision-making, following these steps is not a sufficient condition for producing consistency. The missing element is some assurance that each step of the decision process will be carried out in an effective manner. To aid the decision-maker in this respect, the objective, the criteria, for judging performance, and the relationship to change have been indicated for each stage of the decision process.

In addition to making good decisions, a decision-maker must recognize decision situations.

As a partial answer to this need, a classification system of decision situations has been developed. The major categories are decisions relative to Target, General Policy, Objectives, Program, Resources, Schedules, and Program Policy.

The classification system has been based on the researcher's belief that types of decision situations are intimately related to types of educational planned change (Typology of Planned Change) and on the set of decision situations collected from the Columbus Title I projects.

The resultant framework consists of a set of decision situations (the classification system of decision situations) that confront project directors and a decision process whereby a good decision may be reached.

Evaluation

The criteria for evaluating the decision framework and the corresponding evaluations are listed below.

1. A framework should be relevant.

   The framework is relevant to the problem (need for a quality framework for communication and decision in American education) in that it is a direct attempt to build a more adequate framework for decision in Title I projects.

2. A framework should be internally logical and complete.

   A logical structure was established and the decision framework built to be consistent with it. The author lays no claim to the total framework being complete.

3. A framework should be a useful way to organize that which has been observed.

   The framework was constructed for use by project directors but at this stage there is little evidence of such usefulness.

   It has been useful, however, in bringing to light areas of planned change in need of study. These are treated later under implications of the study.

4. A framework should fit the observations.

   The framework has been checked against the literature, a set of decision situations, and the experience of educational specialists.

5. A framework should relate elements in a way in which they have not previously been related.

   A review of the literature leads the researcher to believe this criteria has been satisfied.

6. A framework should be heuristic.

   The study was undertaken as a foundation for the study of decision in the Evaluation Leadership Project of The Ohio State University Evaluation Center.

7. A framework should be logically capable of being extended by empirical study.

   Implications of the study are treated in the next section.

Implications for further study

A. Implications of the logical structure.

This study has been concerned only with decision in Title I projects at the local school system level. The Anatomy of Planned Change in American Education indicates other levels of school organization to which the study should be extended. In particular, change and decision frameworks should be developed for each level of school organization.

Also indicated by The Anatomy of Planned Change is a need to study modes of influence of planned change. It seems that a typology of influences of change similar to the Typology of Planned Change in American Education might be developed.

As new insight is gained, other dimensions such as time constraints may be added to the Anatomy of Planned Change in American Education.

Finally, The Planned Change Process in American Education has been divided into three subprocesses, Problem Analysis, Decision Process, and Integration Process, with only the Decision Process being treated in detail here. There is an equal need for detailed studies of Problem Analysis and the Integration Process.

B. Implications of the decision framework.

The decision framework is in need of empirical testing as to its usefulness to Title I project directors and to other such decision-makers.

As the decision framework shows potential usefulness, information needs should be identified and techniques developed for collecting, storing, and retrieving the needed information.

Related to this are the information needs of the other sub-processes in the planned change process. These should be pinpointed as more understanding is gained about these subprocesses.

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